THE DEXTER COMPANY

OPL

25 LB. WASHERS

Thoroughbred 400
WCN25

40 LB. WASHERS

Thoroughbred 600
WCN40

Service Procedures and Parts Data

Throughbred 400

Throughbred 600

Fairfield, Iowa 52556
Telephone 641-472-5131
Fax 641-472-6336

Part No. 8533-046-002
12/01

WARNING

THESE WASHERS ARE EQUIPPED WITH DEVICES AND FEATURES RELATING TO THEIR SAFE OPERATION. TO AVOID INJURY OR ELECTRICAL SHOCK, DO NOT PERFORM ANY SERVICE, UNLESS QUALIFIED TO DO SO.

A machine should not be allowed to operate if any of the following occur:

- Excessively high water level.
- Machine is not connected to a properly grounded circuit.
- Loading door does not remain securely locked during the entire cycle.
- Vibration or shaking from an inadequate mounting or foundation.

WARNING - FOR SAFETY

1. Always shut off power and water supply and wait 2 minutes before servicing to allow capacitors in variable frequency drive to discharge
2. Do not overload the washer.
3. Do not attempt to open door if cylinder is in motion or contains water.
4. Do not mechanically force or override door lock in any way.
5. Do not bypass any safety devices of this washer.
6. Do not use volatile or flammable substances in or near the washer.
7. Keep all panels in place. They protect against shock and injury and add rigidity to the washer.

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Section 1
Specifications

Thoroughbred 400 OPL Washers

Model	Voltage
WCN25AADX	220-240 volts, 60 Hz, Single Phase
WCN25ABDX	208-240 volts, 60 Hz, Three Phase

Thoroughbred 600 OPL Washers

Model	Voltage
WCN40AADX	220-240 volts, 60 Hz, Single Phase
WCN40ABDX	208-240 volts, 60 Hz, Three Phase

Specifications

T400 OPL

Capacity	25lbs.
Dimensions	
Cylinder Depth	14 1/8"
Cylinder Diameter	25"
Cylinder Volume (cubic feet)	4.0
Door Opening	15 1/4"
Door Height (floor to bottom of door)	16 1/2"
Overall Height	48 1/4"
Cabinet Width	29 7/8"
Overall Depth	27 1/8"
Drain Diameter (O.D.)	3"
Drain Height (floor to center of outlet)	5"
Recommended Clearance	
Between Machines (minimum)	1/2"
Necessary Service Clearance Behind Machine	24"
Cylinder RPM	
Tumble Speed	50
Intermediate Extract Speed	NA
Intermediate Extract G-Force	NA
Extract Speed	510
Extract Speed G-Force	92
Cylinder Direction in Extract	counter clockwise
Motor H.P.	
Wash (single phase)	0.35
(three phase)	0.35
Extract (single phase)	1.5
(three phase)	1.5
Amperage *	
Wash (three phase)	3.75
Wash (single phase)	3.5
Intermediate Extract (three phase)	NA
Intermediate Extract (single phase)	NA
Extract (three phase)	3
Extract (single phase)	8.5
Running Amps (maximum)	
Single Phase	13
Three Phase	6.2
Circuit Breaker (amps) **	
Three Phase	15
Single Phase	20
Built-in Controls Circuit Breaker	yes
Built-in Motor Protection	yes

Voltage 60 Hz.	
Three Phase	208-240
Single Phase	220-240
Service	
Three Phase ***	3 wire plus ground
Single Phase ***	3 wire plus ground
Wire Size (min.)	
Three Phase	12
Single Phase	12
Chemical Injection	
Rear Access Electrical Connections	Yes
Rear Access Hose Connections	Yes
Steam Heat Option	Yes
Water	
Recommended Hot Water (degrees)	140
Water Pressure (min/max)	30-120psi
Water Inlet Size (hose thread)	3/4"
Water Flow Rate (gallons/minute)	9
Wash Cycle	
Cycle Time	See chart 6
Wash Temperatures	hot, warm & cold
Rinse Temperatures	hot, warm & cold
Diagnostic Cycles	NA
Mounting Hole Dimensions	
Left to Right	26 7/8"
Front of Cabinet to First Hole	2 1/2"
First Hole to Second Hole	14 1/2" or 17 1/8"
Second Hole to Third Hole	N/A
Mounting Bolt Diameter	5/8"
Hole Diameter in Base	3/4"
Concrete Thickness (min.)	6"
Recommended Mounting Height	4" to 6"
Weight	
Shipping (lbs.)	503/1p 495/3p
Net (lbs.)	485/1p 477/3p

* average measured on L1
** use 20 amp Breaker if 120 volt injection pump is used

*** 120 volt chemical pumps will require a neutral wire

Specifications

Model Thoroughbred 600

Capacity	40lbs.
Dimensions	
Cylinder Depth	21 1/8"
Cylinder Diameter	25"
Cylinder Volume (cubic feet)	6.0
Door Opening	15 1/4"
Door Height (floor to bottom of door)	16"
Overall Height	49 3/4"
Cabinet Width	29 7/8"
Overall Depth	35 7/8"
Drain Diameter (O.D.)	3"
Drain Height (floor to center of outlet)	5"
Recommended Clearance	
Between Machines (minimum)	1/2"
Necessary Service Clearance Behind Machine	24"
Cylinder RPM	
Tumble Speed	50
Intermediate Extract Speed	NA
Intermediate Extract G-Force	NA
Extract Speed	510
Extract Speed G-Force	92
Cylinder Direction in Extract	counter clockwise
Motor H.P.	
Wash (single phase)	0.4
(three phase)	0.35
Extract (single phase)	1.8
(three phase)	1.5
Amperage *	
Wash (three phase)	3.75
Wash (single phase)	3.5
Intermediate Extract (three phase)	NA
Intermediate Extract (single phase)	NA
Extract (three phase)	3
Extract (single phase)	5.25
Running Amps (maximum)	
Single Phase	13
Three Phase	6.2
Circuit Breaker (amps) **	
Three Phase	15
Single Phase	20
Built-in Controls Circuit Breaker	yes
Built-in Motor Protection	yes

Voltage 60 Hz.	
Three Phase	208-240
Single Phase	220-240
Service	
Three Phase ***	3 wire plus ground
Single Phase ***	3 wire plus ground
Wire Size (min.)	
Three Phase	12
Single Phase	12
Chemical Injection	
Rear Access Electrical Connections	Yes
Rear Access Hose Connections	Yes
Steam Heat Option	no
Water	
Recommended Hot Water (degrees)	140
Water Pressure (min/max)	30-120psi
Water Inlet Size (hose thread)	3/4"
Water Flow Rate (gallons/minute)	9
Wash Cycle	
Cycle Time	See chart 6
Wash Temperatures	hot, warm & cold
Rinse Temperatures	hot, warm & cold
Diagnostic Cycles	NA
Mounting Hole Dimensions	
Left to Right	26 7/8"
Front of Cabinet to First Hole	2 3/4"
First Hole to Second Hole	21 1/2"
Second Hole to Third Hole	N/A
Mounting Bolt Diameter	5/8"
Hole Diameter in Base	3/4"
Concrete Thickness (min.)	6"
Recommended Mounting Height	4" to 6"
Weight	
Shipping (lbs.)	680/1p 652/3p
Net (lbs.)	655/1p 627/3p

* average measured on L1
** use 20 amp Breaker if 120 volt injection pump is used

*** 120 volt chemical pumps will require a neutral wire

Cycle Times

OPL Mechanical Timer Washer

	Rotary Switch Position				Chemical	Water
	1	2	3	4	Signal	Level
Flush	3 min.	3 min.	**Not used**	**Not used**	No	High
Drain	42 sec.	42 sec.	**Not used**	**Not used**		
Prewash	3 min.	3 min.	3 min	3 min.	Yes--A	High
Drain	42 sec	42 sec.	42 sec	42 sec		
Wash	7 min.	7 min.	7 min.	7 min.	Yes--B	Low
Drain	49 sec	49 sec.	49 sec	49 sec		
Rinse 1	2 min.	**Not used**	2 min.	2 min.	No	High
Drain	41 sec.	**Not used**	41 sec	41 sec.		
Rinse 2	7 min.	7 min.	7 min.	**Not used**	Yes--C	Low
Drain	49 sec.	49 sec.	49 sec	**Not used**		
Rinse 3	2 min.	2 min.	2 min.	2 min.	No	High
Drain	41 sec	41 sec	41 sec	41 sec.		
Int. Spin	2 min.	2 min.	2 min.	2 min.		
Rinse 4	2 min.	2 min.	2 min.	2 min.	No	High
Drain	42 sec.	42 sec	42 sec	42 sec		
Rinse 5	4 min.	4 min.	4 min.	4 min.	Yes--D	Low
Drain	41 sec.	41 sec	41 sec	41 sec		
Extract	5 min.	4 min.	5 min.	3 1/2 min.		
Tumble	37 sec.	37 sec.	37 sec.	37 sec.		
Total *	43 min.	39.5 min.	39.5 min.	30.5 min.		

* Cycle times are approximate and do not include fill time from empty to low level. Fill time from low to high level is included as timer operates during this period

Water Temperatures

OPL Mechanical Timer Washer

Push Button Temperature Switch

	1	2	3	4
Flush	Warm	Warm	Warm	Cold
Prewash	Warm	Warm	Warm	Cold
Wash	Hot	Warm	Warm	Cold
Rinse 1	Hot	Hot	Warm (Hot OPT)	Cold
Rinse 2	Hot	Hot	Warm (Hot OPT)	Cold
Rinse 3	Warm	Warm	Warm (Cold OPT)	Cold
Rinse 4	Warm	Warm	Warm (Cold OPT)	Cold
Rinse 5	Warm	Warm	Warm (Cold OPT)	Cold

Options

1. Replace all Hot rinses with Warm rinses by removing brn/red wire from coil of R5 relay and insulate
2. Push button 3 replace Warm rinse 1 & 2 with Hot by removing black jumper wire between push button 3 and push button 4 and connecting the wht/brn wire (piggybacked on the black jumper) to push button 4 normally open terminal B1
3. Push button 3 replace Warm rinse 3,4 & 5 with Cold by moving brn/org wire from pushbutton 3 common terminal A2 to push button 3 normally closed terminal C2

Cycle Options

Omit All Flushes

1. Remove the clear in-line splice from the end of the orange/white wire. (This wire will be laying loose next to the terminal strip)
2. Connect the orange/white wire to terminal #2 on the terminal strip.

Omit Hot Rinses on Rinse #1 & #2

1. Remove brown/red wire from coil of R5 relay and insulate wire.

Add Hot Rinses on Rinse #1 & #2 on Temperature Push Button position #3

1. Remove black jumper from back of temperature switch that connects push button #3 N.O. (B2) to push button #4 N.O. (B1)
2. Move white/brown wire on back of temperature switch to push button #4 N.O. (B1).

Add Cold Rinses on Rinse #3, #4 & #5 on Temperature Push Button position #3

1. Move brown/orange wire from push button #3 Common (A2) to push button #3 N.C. (C2).

Omit Rinse #4 All cycles

1. Remove the clear in-line splice from the end of the gray wire. (This wire will be laying loose next to theterminal strip)
2. Connect the gray wire to terminal # 2 on the terminal strip.

Wash Formulas

Application	Formula	Mechanical Timer	Rotary Switch Position
Shirt Laundry	Shirts (No Starch)	X	4 (A)
oxygen bleach	Shirts (Starch)	X	4 (A)
Hotel/Motel	White Sheets	X	2 (B)
chorine bleach	White Pillowcases	X	1(B)
	White Towels, Bath Mats & Wash Cloths	X	3 (B) or 1(B)
	Colored Sheets & Towels	X	4 (B) or 1(B)
	Delicate Wash	X	4 (B)
	Housekeeping Rags & Mops	X	1 (C)
	Housekeeping Uniforms	X	2 (D)
	Stain Treatment	No	
	Reclaim Part1	No	
	Part 2	No	
Health Care	Sheets & Pillowcases	X	2
chlorine bleach	Towels	X	3 or 1
	Diapers & Pads	X	1 (K)
	Personals	X	4
	Delicates	X	4
Food & Beverage	White (Cotton/Blend) Table Linen	X	3 (E)
chlorine bleach	Colored (Cotton/Blend) Table Linen	X	2 (F)
	White (100% Polyester) Table Linen	X	3 (E)
	Colored (100% Polyester) Table Linen	X	2 (F)
	White Chef Coats	X	1 (J)
	Kitchen & Maintenance Rags	X	1 (G)
oxygen bleach	White/Colored (Cotton/Blend) Table Linen	X	3 (H)
	White/Colored (100% Polyester) Table Linen	X	3 (H)
	White Chef Coats	X	1 (G)
	Kitchen & Maintenance Rags	X	1 (G)
Other	Oxygen Bleach–Terry	X	1 (G) or 3(L)
oxygen bleach	Oxygen Bleach–Terry (No Iron)	X	1 (G) or 3(L)
	Open	No	

(A) Switch Position #4 gives 7 minute wash. Flush & Prewash eliminated with jumper (connect orange/white wire to terminal strip #2)
(B) Flush & Prewash eliminated with jumper (connect orange/white wire to terminal strip #2)
(C) Switch Position #1 gives 2 flushes/3 rinses after bleach
(D) Switch Position #2 gives either 2 flushes or 0 flushes. Flush & Prewash eliminated with jumper (connect orange/white wire to terminal strip #2)
(E) Switch Position #3 gives 7 minute wash
(F) Switch Position #2 gives either 2 or 0 flushes with a 7 minute wash. Flush & Prewash eliminated with jumper (connect orange/white wire to terminal strip #2)
(G) Switch Position #1 gives 3 min. flush/3 min. prewash/7 min. wash/5 rinses
(H) Switch Position #3 gives 7 minute wash/7 minute 2nd rinse
(J) Switch Position #1 gives 3 min. flush/3 min. prewash/7 min. wash
(K) Switch Position #1 gives 2 flushes
(L) Same as (G) only deletes first Flush

Please refer to OPL Washer CYCLE TIMES charts for all available options.

Section 2
Installation & Operation

All washers must be installed in accordance with all local, state and national building, electrical, and plumbing codes in effect in the area.

Foundation Requirements
The washer must be securely bolted to a substantial concrete floor, or mounted upon a suitable base which is in turn securely bolted to a substantial concrete floor. Care must be stressed with all foundation work to insure a stable unit, eliminating vibration. All installations must be made on sound concrete floors 6" or thicker.

Mounting
A concrete pad or steel base which elevates the machine 4 to 6 inches above the floor level is recommended to provide easy access to the loading door. Allow a minimum of 24" of clearance behind the rear of the machine for service.

Mounting Holes
The following pages illustrate the mounting dimensions for the machine and also show a typical concrete pad arrangement.

Thoroughbred 400
Mounting hole dimensions are shown as either 14 1/2 or 17 1/8 inches front to back spacing. The 17 1/8 spacing is preferable unless current anchors dictate the 14 1/2 spacing. All 6 mounting holes may be used.

Thoroughbred 600
There are four mounting holes in the 600 and of course all must be used.

> **Note: Mounting bolts should be checked frequently to insure that they are still tight. The machine should be checked with a spinning load to be sure there is no unusual vibration or movement between the machine and the base or floor.**

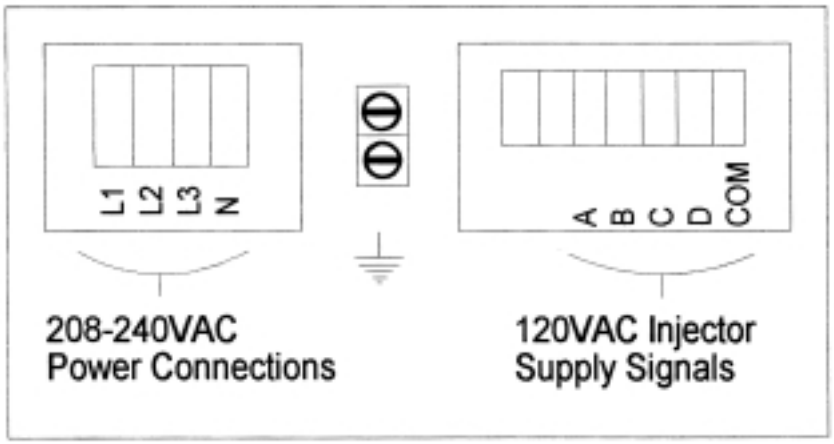
Plumbing
Water supply hoses are furnished with each machine. The threaded connections on the hoses are standard garden hose type thread. Separate hot and cold water lines with shut off valves or faucets for inlet hose connections must be provided, maintaining 30 to 60 p.s.i. water flow pressure. The hot water recovery rate necessary will depend on the length of the cycle and the specific program selected. A hot water temperature of 140 degrees Fahrenheit is recommended for best washing results.

Drain
The drain outlet tube at the rear of the machine is 3" in outside diameter. A flexible hose (Pt. No. 9242-417-003) is available to extend the drain system. Adequate fall must be maintained for proper drainage.

Protective Film
The machine may have protective adhesive film on the front escutcheon area and the front and side stainless steel panels. The film may be peeled off before putting the machine into service.

Electrical (includes chemical pump connections)
Dexter WCN25 and WCN40 series washers are intended to be permanently installed appliances. The machines should be connected to an individual branch circuit not shared by lighting or other equipment. The electrical connection should be sheathed in water proof flexible conduit, or
equivalent, with conductors of the proper size and insulation (suggested size below). A power cord is not provided. The following diagram shows the proper power connections to the rear terminal block for both 1 and 3 phase machines. Wiring should be performed by a qualified person.

Electrical power connections are made to the terminal block located at the upper left-rear corner of the washer. The terminal block is accessed by removing the cover.



1 Phase, 220-240 volts, 60 Hz.
connect L1, L2, N and ground

3 Phase, 208-240 volts, 60 Hz.
connect L1,L2,L3 and ground
(high leg must go on L3)

A-Prewash Product
B-Detergent
C-Bleach
D-Sour/Softener
Com-120 VAC common

Suggested Minimum Wire Size -- 12 Ga.

Jumpers for 120VAC and 240 volt power supply for chemical pumps (dash lines in drawing) are field installed.

Fusing Requirements:
Dual element time delay fuse or equivalent breaker of amperage specified below.

T-400	**&**	**T-600**
1 Phase		20 amp
3 Phase		15 amp

Always disconnect electrical power to the machine before performing any adjustments or service work.

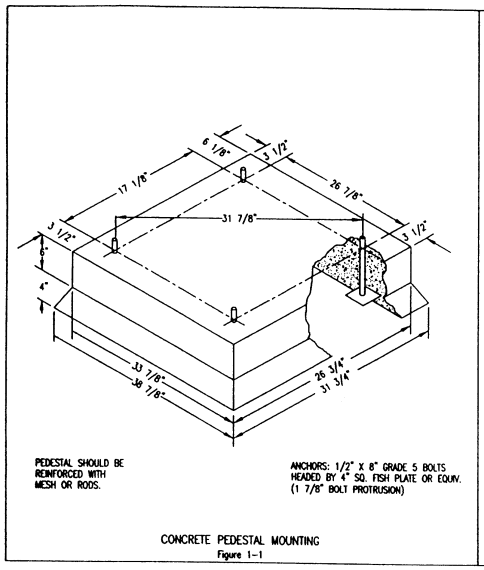
Liquid Chemical Connection

In the left rear corner of the washer is the chemical injection assembly. This is where all chemical hose connections are made. The chemical hoses should be inserted into the round pvc pipe a minimum of 8" and a maximum of 12" on the T-400 and a minimum of 14" and a maximum of 18" on the T-600 to eliminate chemical buildup in the pipe and/or restrict water flow to the tub.

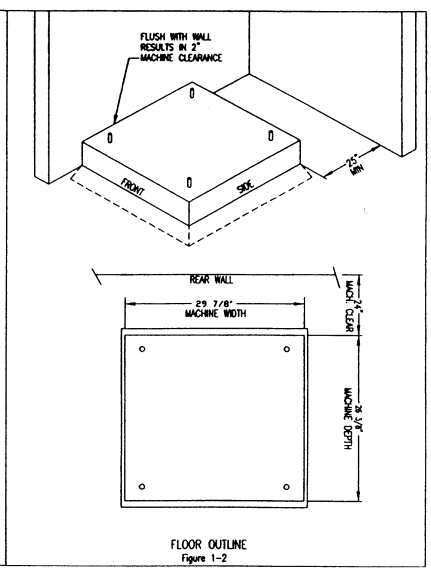
Final Check out

After all mounting, plumbing and electrical work is completed, the washer should be run through a cycle and checked for water leaks and proper functioning.

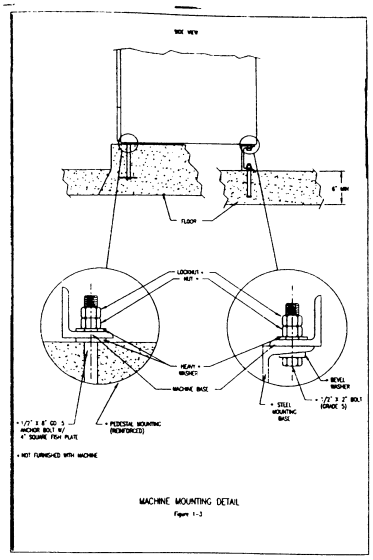
Note: 3 Phase Machines- Spin must be Counterclockwise viewed from the front of the machine. If spin is clockwise , the power wires going to L1 and L2 on the power terminal block TB-1 should be switched.



CONCRETE PEDESTAL MOUNTING
Figure 1-1

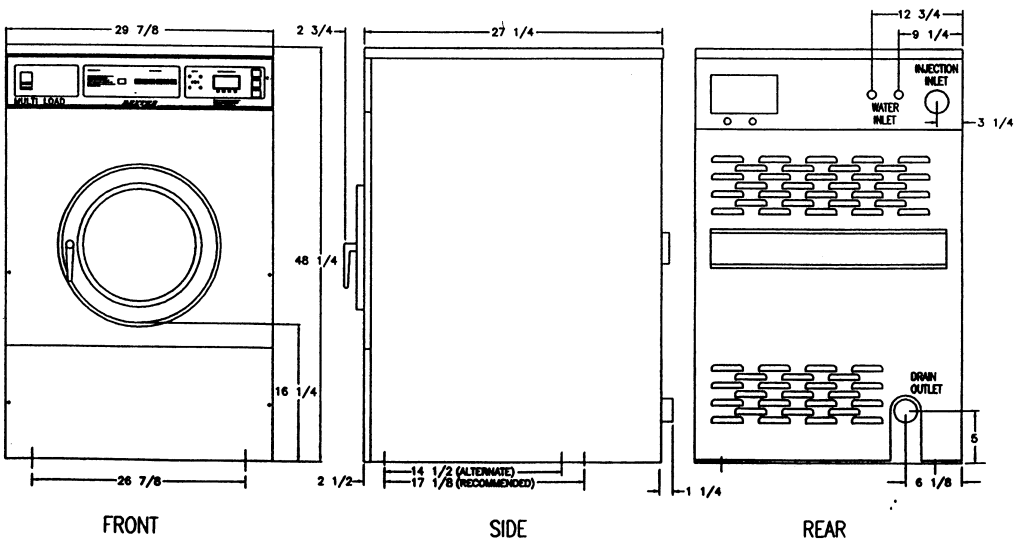


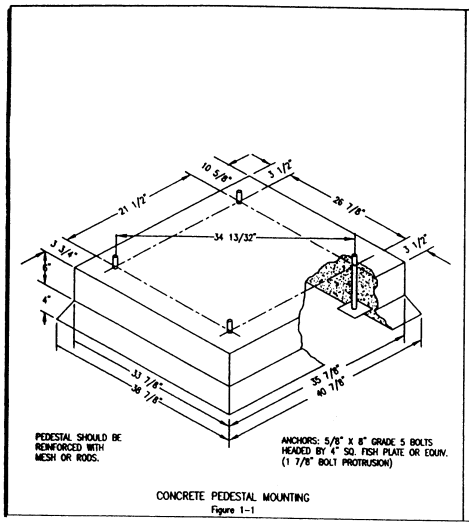
FLOOR OUTLINE
Figure 1-2



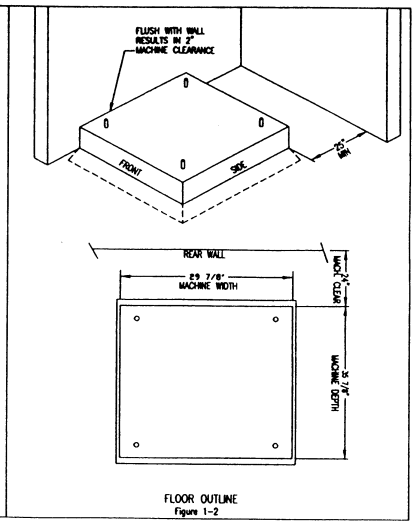
MACHINE MOUNTING DETAIL
Figure 1-3

400 SERIES INDUSTRIAL WASHER
MOUNTING DIMENSIONS

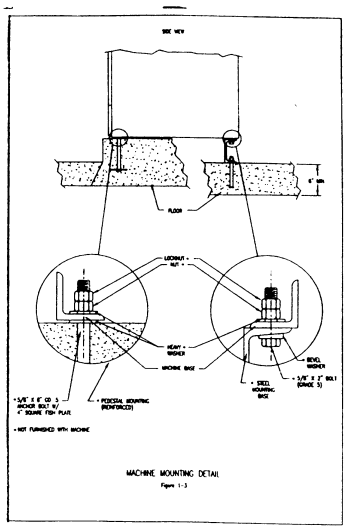




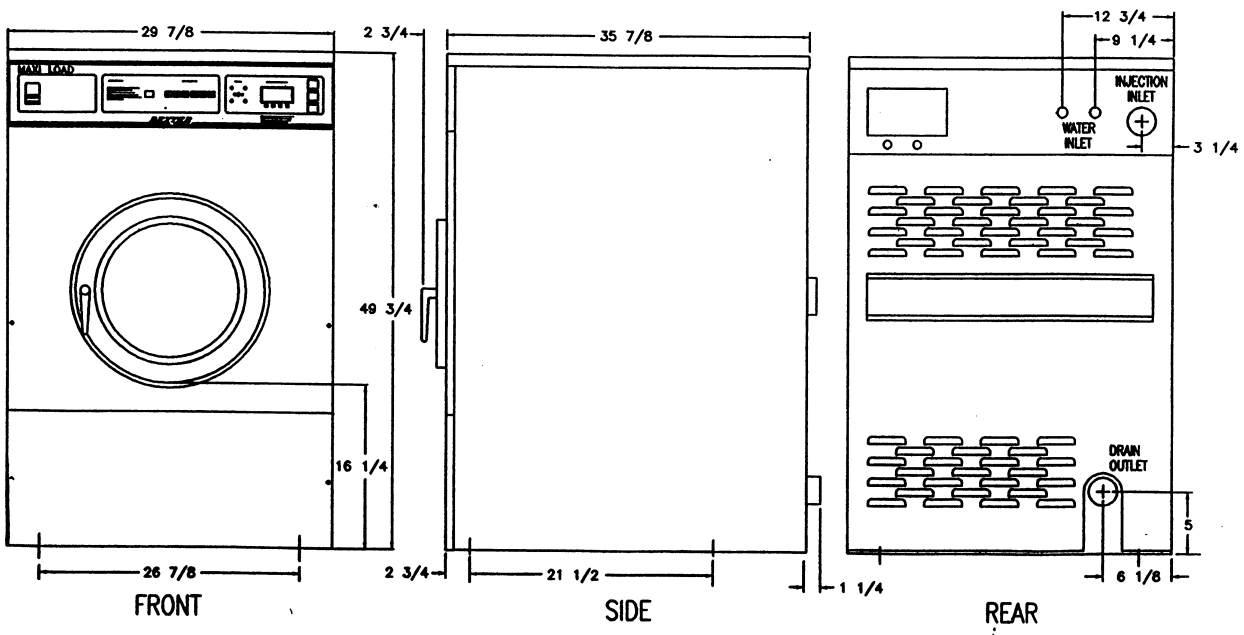
CONCRETE PEDESTAL MOUNTING
Figure 1-1



FLOOR OUTLINE
Figure 1-2



600 SERIES INDUSTRIAL WASHER
MOUNTING DIMENSIONS



Operating Instructions

Starting the Washer

A. Load the clothes in the cylinder and latch the door. Check to insure that clothes do not get caught between the door gasket and the tub front.

B. Make the appropriate cycle selection for the wash load using the 4-position rotary selector switch.

C. Make the appropriate temperature selection for the wash load using the 4-push button temperature selector switch.

D. To manually add wash compounds, pour low-sudsing powdered detergent in the amount shown below into the detergent dispenser on top of the machine. Rinse conditioners may also be added to the dispenser. The correct location is shown on the dispenser lid.

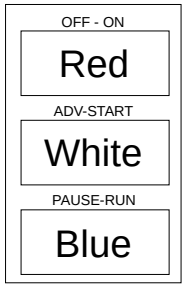
T-400

T-600

E. To manually add bleach in Rinse, pour bleach in round opening (location shown on dispenser lid) in top of washer.

F. To start the washer:

1. The top (Off/On) and bottom (Pause/Run) rocker switches must be in the right hand position.
2. The center (Advance/Start) rocker switch must then be pushed to the right hand position to begin the cycle.



G. To rapid advance the washer during a cycle, push the center (Advance/Start) rocker switch to the left hand position.

H. To pause for an extended soak, push the bottom (Pause/Run) rocker switch to the left hand position.

I. To stop the wash cycle and drain the water, push the top (On/Off) button to the left hand position.

Safety Door Lock

If power is interrupted the Safety Door Lock delays opening the door until it is safe to do so. If power failure occurs or if power is interrupted during maintenance, it will be necessary to wait 2 to 3 minutes before the door can be opened.

End of Cycle

When the cycle is completed, the washer will stop, the “on” light will go off, and the loading door will unlock. It can be opened by turning the door handle to the indicated position and pulling. Leave the clothes door open when the machine is not in use.

Section 3
Wiring Schematics

Start Circuit

Power travels into the control trough on L1 &L2 (3 phase) or L1 &N (1 phase). On 3 phase, 240VAC goes to a Control Transformer that steps the voltage down to 120VAC AC for the controls. 120VAC then travels to the On/Off Switch. If On is selected 120VAC travels to the 1.5 amp Circuit Breaker. On 1 phase, 120VAC goes directly to the On/Off Switch and then to the 1.5 amp Circuit Breaker. There is no need for a step down transformer on 1 phase.

From the Circuit Breaker, 120VAC travels on the white/red wire to the Main Timer Start and On-Off Contacts. The Start Contact is closed before the machine has been started so 120VAC travels through the Start Contact and is supplied to the Advance/Start Switch. When the Advance/Start Switch is closed 120VAC is supplied on the orange/white wire to the Rapid Advance Timer Motor. This timer motor starts advancing the Main Timer to the preselected starting position. The On-Off Contact in the Main Timer closes and provides 120VAC to the S1 Door Switch. The On-Off Contact also provides 120VAC to the On Light on the red wire. With the S1 Switch closed (door is latched) the Door Lock Solenoid is now powered with 120VAC via the white/red wire. The Door Lock Solenoid pulls in, locking the door and closing the S2 and S3 Switches. The S2 Switch is a backup to the S1 Switch so that the adjustment on S1 isn't as critical. The S3 Switch provides 120VAC to Timer Contacts RA-1,2,3,4 to power the Rapid Advance Motor again (if 2 Flushes are not selected) and the Main Timer is allowed to advance on to the preselected start position. The blue wire furnishes the neutral for the controls.

Fill Circuit-Warm

120VAC is supplied to the controls through the S1, S2, and S3 Door Switches. The On Light and the Door Lock Solenoid (discussed in Start Circuit) will remain on throughout the cycle. The Lock Thermoactuator Contact in the Main Timer is closed and provides the neutral side to operate the Lock Thermoactuator. This contact cycles open and closed keeping the Lock Thermoactuator activated until 1 1/2 minutes before the end of the cycle. At this point the contact opens and removes power to the Lock Thermoatuator. 120VAC is provided to the Lock Thermoactuator on the orange wire from the S3 Door Switch. The Drain Contact in the Main Timer is closed and provides 120VAC to the Drain Valve on the brown/yellow wire which closes the valve. The Wash Motor Contact in the Main Timer is closed and provides 120VAC to the Reversing Timer and the Reversing Timer Motor on the blue/black wire. This will start the Reversing Timer operating which will alternately open and close the Micro Switches that provide the direction of tumble for the wash basket. Depending on the cycle selected either the Wash Light Contact, the Prewash Light Contact, or No Contact (1st Flush) in the Main Timer is closed and provides 120VAC to these Lights. The orange wire coming from the S3 Door Switch provides power to the Wash Water Contact in the Main Timer as well as the High Water Level Contact. 120VAC connects from the Wash Water Contact to the Wash Temperature Contact via an internal timer connection.

Now a water temperature must be selected with the Temperature Selector Switch. We'll use #2 Warm. The washer fills the tub through the back of the machine with both the C1 Cold and H1 Hot Water Valves. 120VAC travels from the Wash Water Timer Contact to the #1Contact in the Selector Switch via the white/black wire. 120VAC goes through the closed #1 Contact in the Selector Switch and energizes the C1 Cold Water Valve Solenoid via the white/orange wire. 120VAC also travels to the closed #4 Contact in the Selector Switch. This closed contact provides power to the H1 Hot Water Valve Solenoid via the red/yellow wire. The neutral for the Water Valves & Main Timer Motor is provided through the Pause/Run Switch & through the Motor Overload Protector. The Main Timer is stopped until the Pressure Switch provides neutral when low level is reached.

As the washer fills with water, the Wash Basket will tumble one direction for 19 seconds, pause, and then reverse direction for 19 seconds. All Flushes and Rinse 1, 3 & 4 are high level. Wash, Rinse 2 & Final Rinse are low level. For a high level bath 120VAC travels from the timer High Water Level Contact on the green/white wire to the R4 High Water Level Relay. When energized, the R4 High Water Level Relay opens the neutral yellow wire from the low level side of the Pressure Switch & closes the violet/yellow from the high side. When the water reaches the predetermined level the Pressure Switch moves to the full position and opens the neutral side of the line to the Water Valves.This shuts the Water Valves off.

Wash Circuit

As the washer fills the tub through the back of the machine with either one or both the C1 Cold and H1 Hot Water Valves, the Wash Basket will tumble one direction for 19 seconds, pause, and then reverse direction for 19 seconds. This is accomplished through the use of a Reversing Timer. 120VAC is supplied to the Reversing Timer Motor on the blue/black wire from the Wash Motor Timer Contact in the Main Timer. The Reversing Timer will alternately open and close the two Wash Micro Switches and provide 120VAC to the R1A (brown/white wire) and R1B (orange/green wire) Wash Contactor Coils. These coils open and close the Contactor Switches to operate the Drive Motor.

As discussed in Start and Fill, the Lock Thermoactuator, Drain Valve, On Light, and Main Timer Motor (except in fill) are all operating throughout the Wash Cycle.

Liquid Chemicals Injection Pumps receive 120 volt signals from the terminal strip on the back of the washer. These are labeled A, B, C, &D. (A-Prewash, B-Wash, C-Rinse 2, D-Final Rinse)

Drain, Rinse 1, 2, 3 & 4 & Final Rinse Circuit

The Drain Contact on the Main Timer opens removing power to the Drain Valve. The normally-open spring-loaded Drain Valve opens and empties the tub.

For Rinse 2, 3 & 4 the Rinse Light Contact in the Main Timer closes and provides 120VAC to the Rinse Light. The Rinse Water Contact in the Main Timer also closes and provides 120VAC to the C1 Cold Water Solenoid and through the Rinse Temp Contact to the H1 Hot Water Solenoid (Except when cold #4 is selected). The tub will fill until the predetermined level is achieved at which time the Pressure Switch Contact will open the neutral side of the line shutting off the C1 Cold Water Solenoid and H1 Hot Water Solenoid.

For the Final Rinse, the Final Rinse Light Contact in the Main Timer closes and provides 120VAC to the Final Rinse Light. Rinse water is the same as in Rinses above.

The Hot Rinse Contact provides 120VAC to the R5 relay on the brown/red wire. This opens the circuit to the C1 Cold Water Solenoid when Temperature Selector Switch #1 or #2 is depressed.

Extract Circuit

The Wash Motor Contact remains closed and provides 120VAC to the closed Clockwise Micro Switch on the Reversing Timer. 120VAC is then fed to the Counter Clockwise Micro Switch via a jumper wire. Power is then sent through the Counter Clockwise Micro Switch to the Delay Spin Micro Switch. The Delay Spin Micro Switch provides 120VAC to the Spin Motor Contact in the Main Timer on the blue/white wire. The Spin Motor Contact is closed for spin and the voltage continues on to the R2 Spin Motor Contactor Coil on the red/black wire and to the Spin Light on the yellow/red wire. With 120VAC to the R2 Spin Motor Contactor Coil the Contactor is pulled down (closed) and two things happen. With the R2 Contactor closed, 120VAC is now provided from the orange wire directly to the Contactor eliminating the Reversing Timer and the Micro Switches from the circuit.

The second thing that happens when the R2 Contactor is closed is that voltage is provided directly to the Spin Winding in the motor on 3 phase machines and the washer spins.

On 1 phase washers, the R2 Contactor provides 120VAC to the Main Spin Winding and also provides 120VAC to the Solid State Start Switch Terminal #2. 120VAC goes out of the Solid State Start Switch on the #3 Terminal to the Spin Capacitor. The Spin Capacitor then provides 120VAC to the Phase Spin Winding until the Spin Motor comes up to speed. Within a few seconds of start up, the Solid State Start Switch senses that the Spin Motor Current has dropped (motor is up to speed) and opens the circuit on #3 Terminal on the Solid State Start Switch. This eliminates voltage to the phase winding (start winding) and the motor continues to run on the Main Winding.

Thermoactuator and Shake Out Circuit

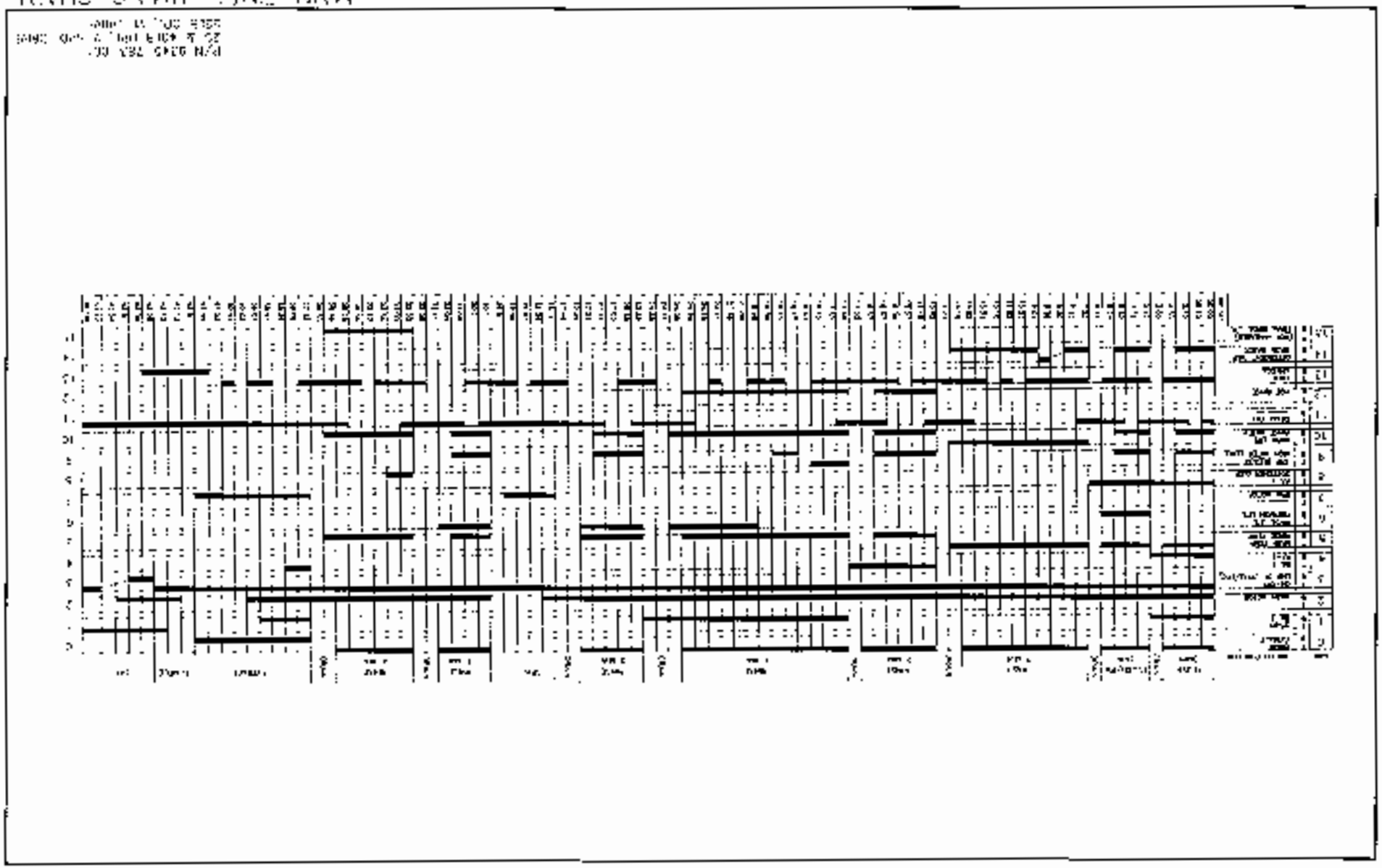
The Lock Thermoactuator Contact in the Main Timer opens 1 1/2 minutes before the end of the cycle removing the neutral to the Thermoactuator. This allows the Thermoactuator time to retract by the end of the cycle.

To insure that the Lock Thermoactuator has retracted by the end of the cycle, 1 minute prior to the end of the cycle, the Unlock Thermoactuator is powered with 120VAC through the Unlock Thermoactuator Contact in the Main Timer.

The Spin Motor Contact in the Main Timer opens, stopping voltage to the motor. The basket will coast to a stop. The Wash Motor Contact in the Main Timer closes providing power to the Reversing Timer once again (discussed in Wash Cycle). The washer will tumble for approximately 30 seconds to let the clothes shake loose and then stop. The neutral for the Main Timer Motor is provided through the Delay Fill Timer Contact.

End of Cycle Circuit

The On-Off Contact in the Main Timer opens removing power to the Door Lock Switches and Contactors. The machine is now stopped. The Start Contact on the Main Timer is closed providing 120VAC to the Advance/Start Switch on the white/green wire. The machine is now ready to start a new cycle.



Section 4
Service Procedures

Before performing any service work, remove electrical power from the machine.
Always replace panels before putting machine into service.

Top Panel Removal

A. Remove 4 screws that hold detergent dispenser to top panel.
B. Unlock top panel lock.
C. Raise top panel, slide to the rear to release from back clips and lift off.

Detergent Dispenser

Remove top panel to access dispenser. (see Removing Top Panel)
Detergent is flushed from the front of the compartment and fabric softener is flushed from the back. There will be a small amount of water left in the fabric softener compartment after each use. This is normal.

Vacuum Breaker

In the left rear of the cabinet is the vacuum breaker. It guides the water to the tub and dispenser and prevents a back flow of water.

Chemical Injection Assembly

In the left rear corner of the washer is the chemical injection assembly. This is where all chemical hose connections are made.

Water Valves

Remove top panel to access water valves. (see Removing Top Panel) The two dual outlet water valves are mounted to the rear channel with two screws each. The hot water valve is black in color designating that it is for higher temperature hot water. The cold valve is blue in color designating that it is for lower temperature cold water. Always check inlet screens to be sure that they are clean. Disassembly requires the removal of two solenoid screws and three valve body screws. Below the solenoid coil is a solenoid guide, armature, armature spring and diaphragm. All valve parts are available individually or as a complete unit.

Circuit Breaker
The circuit breaker mounts to the rear channel. It carries all of the controls in the machine but does not include the motor. To reset the circuit breaker just push in the button.

Control Mounting Trough
Remove top panel to access control trough. (see Removing Top Panel) It sets on the right side of the machine and holds many of the controls.

Reversing Timer
The reversing timer operates the wash and spin relays and is mounted on the left side of the control trough with two screws. It has three cam operated switches. Two switches operate the wash cycle by alternately engaging the wash relays to tumble counter clockwise for 19 seconds, stop for 3 seconds, reverse direction and tumble clockwise for 19 seconds. The third switch engages the spin relay for the high speed spin portion of the cycle.

R1A Wash Motor Relay (clockwise direction)
This relay is mounted in the center of the control trough. It is the rear one of the three large relays. It closes the circuit to the motor for clockwise wash speed. Wires are removed using a straight blade screwdriver. The relay is removed by prying out on the mounting tab at the bottom of the relay with a straight blade screwdriver.

R1B Wash Motor Relay (counter clockwise direction)
This relay is mounted in the center of the control trough. It is the middle one of the three large relays. It closes the circuit to the motor for counter clockwise wash speed. Wires are removed using a straight blade screwdriver. The relay is removed by prying out on the mounting tab at the bottom of the relay with a straight blade screwdriver.

R2 Spin Motor Relay
This relay is mounted in the center of the control trough. It is the front one of the three large relays. It closes the circuit to the motor for spin speed. Wires are removed using a straight blade screwdriver. The relay is removed by prying out on the mounting tab at the bottom of the relay with a straight blade screwdriver.

R4 High Water Level Relay
This relay is the rear one of two clear relays located directly in front of the motor relays. The Main Timer provides 120VAC to the R4 High Water Level Relay coil. It closes the circuit from the pressure switch coming out of the high level contacts for the various high level baths in the cycle. It also opens the circuit coming out of the low level contacts.

R5 Hot Rinse Relay
This relay is the front one of two clear relays located directly in front of the motor relays. The Main Timer provides 120VAC to the R5 Hot Rinse Relay coil. It opens the circuit to the cold water valve so that specific rinses are hot water only.

Program Timer
This timer is located on the left side of the control trough directly behind the reversing timer and is held in place with two screws. It controls most machine functions. There are two drive motors on the program timer. The one towards the front of the machine advances the timer at the beginning of the cycle. The timer motor towards the rear drives the timer throughout the cycle. These two motors can be replaced individually. The program timer has a black knob that allows the timer to be manually turned to any portion of the cycle for diagnostic purposes.

Note: All single phase 25lb. and 40lb. washers have an electronic start switch and run and start capacitors. Three phase machines do not require these parts.

Always discharge capacitors before servicing.

Solid State Start Switch (single phase only)

This switch is located on the right side of the control trough directly behind the coin accumulator transformer. Its job is to switch the spin start capacitor on at the beginning of spin and to switch the spin start capacitor off when the motor achieves operating speed. To test the electronic start switch, clamp an ammeter around either single lead wire to the start capacitor (capacitor with plastic case). The switch should show starting current flow in the capacitor circuit momentarily at the start of spin. Continuous current flow means that the electronic start switch is stuck on and has failed. No current flow means that the switch is open and has failed.

Capacitors (single phase only)

The capacitors are located in the right rear corner of the control trough directly behind the start switch. The capacitor with the metal case is the wash run capacitor and the capacitor with the plastic case is the spin start capacitor.

Note: All 60 Hz. three phase washers have a controls transformer. Single phase washers do not require a controls transformer. Always check the incoming voltage and use the appropriate transformer terminal when installing three phase washers.

Controls Transformer (three phase only)

This transformer is mounted at the back of the control trough and steps a range of 208 to 240 volts down to 115 volts for the controls. There are two terminals on the controls transformer for incoming power. One terminal is for 208 to 220 volts and the other is for 221 to 240 volts.

Pressure Switch (Dual Level)

The pressure switch sets the water level in the washer and is located in the left rear corner of the control trough. As the water level rises, it compresses the air in the pressure switch hose. When the washer reaches the desired water level, the compressed air in the pressure switch hose opens the contacts in the switch, shutting off the water. When at the empty level, the pressure switch contacts are closed allowing the machine to either spin or fill with water. At low level the water will be approximately 1/2" up from the bottom of the door glass. On high level the water will be approximately 3"-4" up from the bottom of the door. The pressure switch is sealed and is not adjustable.

Power Connection Terminal Blocks

These terminal blocks set in the right rear corner of the washer and are accessed from the back. Incoming power to the washer and all electrical signals for chemicals should connect here. (see Electrical under Installation and Operation Section for exact connections)

Cycle Indicator Lights

The 120VAC indicator lights are mounted to the back of the control panel and are held in place with two tabs. They are removed by squeezing the tabs with a screw driver. The lights are replaced as a complete unit.

Temperature Selector Switch

The push-button temperature selector switch is mounted on the right side of the control panel and is held in place with two nuts. It allows the selection of hot, warm or cold water temperatures.
Note: Do not over tighten on reinstallation as the switch can be damaged.

Cycle Selector Switch

The rotary cycle selector switch is mounted to the left of the temperature selector switch and is held in place with 2 phillips screws. It allows the selection of 4 different wash cycles.

Rocker Switches

These switches can be replaced individually by squeezing the tabs on the back side and pressing them out the front of the panel.

A. Top switch is red and controls Off and On. This switch must be in the on position for the washer to operate. The off position will cause the washer to stop in the cycle and drain the water.

B. Middle switch is white and controls Advance and Start. This switch must be held in the start position momentarily to start a cycle. Wash and rinse baths can be advanced through by holding the switch in the advance position.

C. Bottom switch is blue and controls Pause and Run. This switch must be in the run position for the washer to advance through the cycle. The washer can be stalled at any point during the cycle for extended soaks by selecting pause. The door will remain locked and the drain valve will remain closed keeping the water in the tub.

Lower Service Panel Removal

Remove 2 screws and pull forward to disengage from the locator studs.

Drain Valve

The drain valve is a ball type and is powered closed by the drain valve motor. It is mounted under the washer tub on the left side. It is spring loaded open. If power is interrupted to the washer, the motor releases the sealing ball, allowing the drive spring to open the valve. With the valve open, all water in the washer will drain out.

Service

For access to drain valve, remove lower service panel.

Cleaning

A. Loosen the clamp on the tub hose at the drain valve end and remove the hose from the drain valve.

B. Loosen the drain hose clamp on the back of the drain valve.

C. Remove two drain valve mounting bracket screws from the frame of the washer.

D. Remove the drain valve and bracket assembly.

E. Unplug the wiring after the drain valve is removed from the washer.

Front Panel Removal

A. Remove 2 screws between front panel top and front channel (located behind control panel).

B. Remove the two screws in the middle of the front panel.

C. Pull panel out at the bottom to about a 45 degree angle to detach the top lip and remove.

Masking Ring (door lock cover) Removal

A. Remove front panel.

B. Remove nuts that retain masking ring.

C. Move it to the left and off.

Door Locking Solenoid

The door locking solenoid is powered shut with control voltage to lock the door and releases when voltage is removed. It is located in the left front corner of the washer.

Thermoactuators

The thermoactuators are a safety device that keeps the door from immediately unlocking if power is lost while the machine is operating. They are mounted under the door locking solenoid.

Lock Thermoactuator

Control voltage is applied to the lock thermoactuator at the beginning of the cycle making it extend and block the door locking solenoid. This keeps the door locked for approximately two minutes after a power failure occurs. The lock thermoactuator does not delay the door opening at the end of a normal cycle.

Unlock Thermoactuator

To insure that the lock thermoactuator has retracted by the end of the cycle, one minute prior to the end of the cycle, the unlock thermoactuator is powered with control voltage making it extend and unblock the door locking solenoid.

Door Lock Assembly
After removing the front panel and trim ring, the door lock assembly can now be accessed.

Operation
After loading the clothing, the door should be closed and latched. The locking cam on the door contacts the latching switch actuator which closes the latching switch. The specified number of coins should now be added to start the washer. This satisfies the coin accumulator which powers the timer rapid advance motor. A timer contact provides power to the latching switch and with the door latched, the power travels through the latching switch to the door lock solenoid. This solenoid pulls up on the locking pawl by use of a linkage rod. The locking pawl has two jobs. The first is to lock the door. This is accomplished by blocking the locking cam on the door so that it can't rotate to unlock. The second job is to close the two piggyback lock sensing switches. These switches control power to all of the controls. If the door unlocks for any reason, these two switches will stop the machine. When the door handle is 1/4 to 1/2 of an inch from its fully closed position, the latching switch should close. The two piggyback lock sensing switches should be open when the door is unlocked and should be closed when the door is locked.

Adjustment
The latching switch and the piggyback lock sensing switches all have slotted mountings for easy adjustment.

1. Set door cam over pin.
2. Tighten spring screww on switch actuator arm until it just clears cam OD.
(Note : Spring screw will have approx. 1/8" thread exposed at end beyond nut.)
3. Set .040 thickness gage between arm and latch switch operator.
4. Swivel switch until it clicks closed. Back it up just until it clicks for a reset. Tighten in that position.
Check again for close and rest with gage in place. Remove gage.
5. Check for switch actuation at partial turn of cam as in operation above.
6. Check that lock arm swings by cam lobe to lock position when switch just clicks.

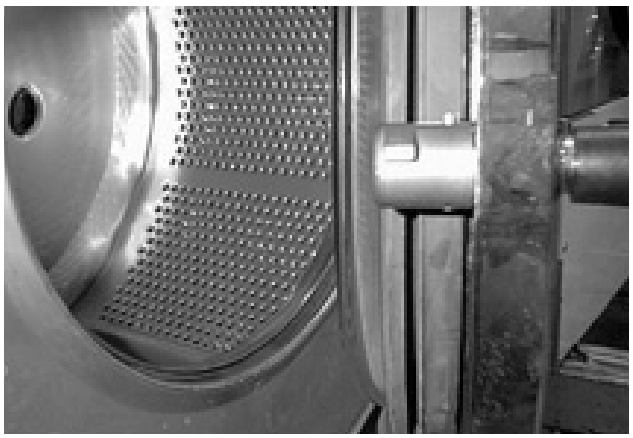


PHOTO # 1 SHOWS THE DOOR CAM AWAY FROM DOOR LOCK ASSEMBLY

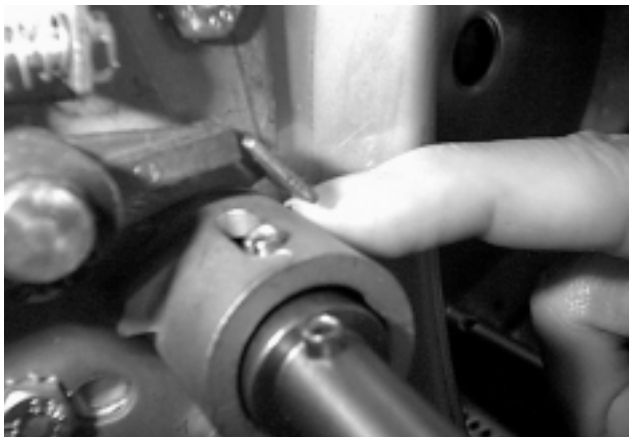


PHOTO # 2 SHOWS WHERE YOU WANT CLEARANCE

PHOTO # 3 SHOWS GUAGE IN PLACE FOR ADJUSTMENT

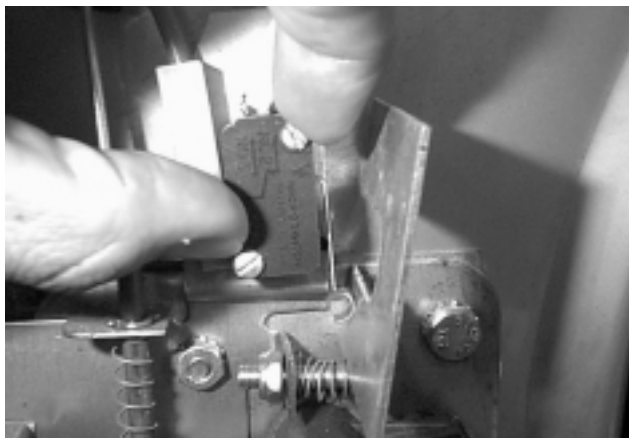


PHOTO #4 SHOWS SWITCH SWIVELLING FOR ADJUSTMENT WITH GUAGE IN.

PHOTO # 5 SHOWS AREA WHERE CONTACT SHOULD BE MADE.

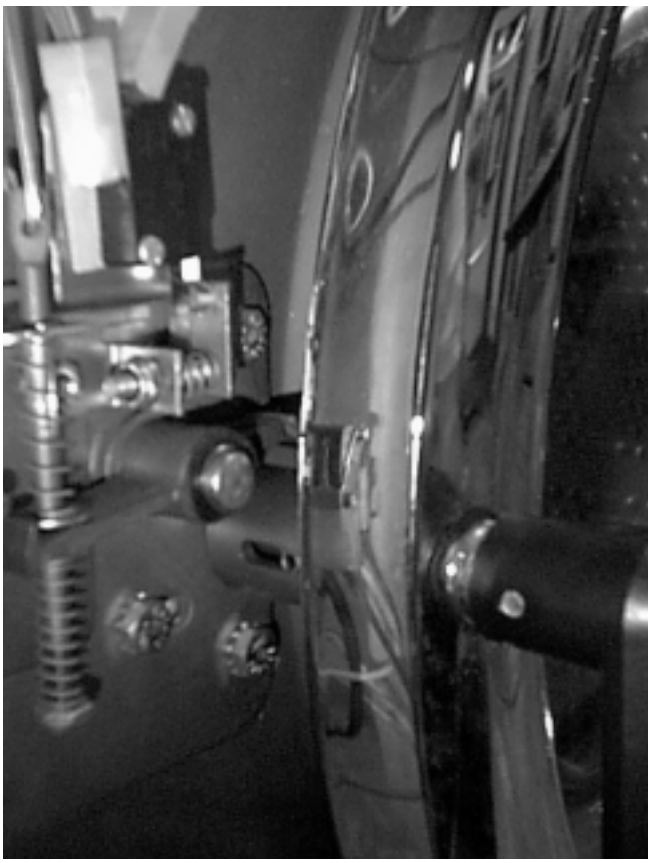


PHOTO # 6 THE COMPLETE ASSEMBLY

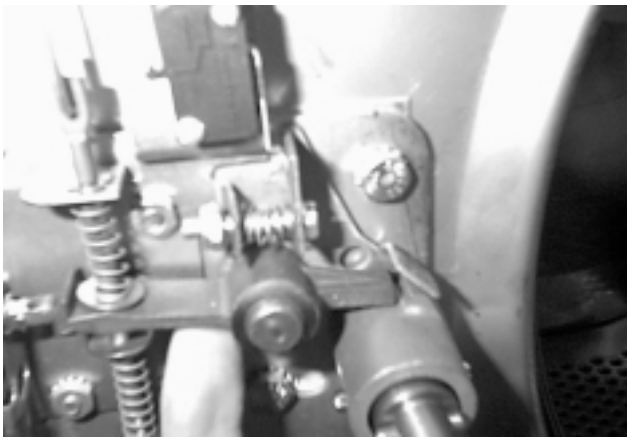


PHOTO #7 SHOWS LOCK ARM ENGAGED

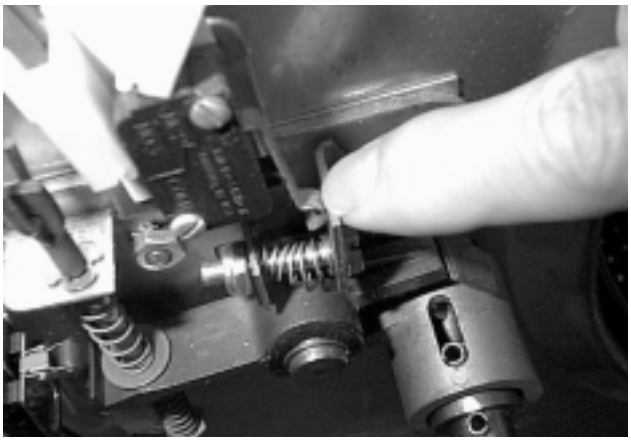


PHOTO #8 JUST TO SHOW WITHOUT GUAGE IN PLACE.

Loading Door Removal

A. Support door to prevent dropping.
B. Remove 3 bolts holding hinge retainer and set door off.

Loading Door Disassembly

A. Remove the loading door as outlined above.
B. Lay the door on a flat surface with the glass down.
C. While holding down on the door glass, lift up on the door ring and roll back the lip of the gasket with your fingers.
D. Work all the way around the gasket and the glass is out.

Loading Door Reassembly

A. Lay the door ring face down on a flat surface.
B. Start the glass into one side of the door gasket.
C. Use one hand underneath to push the gasket out and the other hand on the top pulling the gasket in place.
D. The front lip of the door gasket should be checked for proper seating.

Loading Door Adjustment

The door can be adjusted by changing the number of shims behind the door hinge and the door lock assembly. The vertical fit of the door to the tub can altered by loosening the door hinge bolts and raising or lowering the door before retightening. It is important for the door to be centered on the tub front. By chalking the nose of the tub and closing the door to transfer that line to the gasket, the centering can be evaluated. It is also important for door pressure to be similar around the door perimeter. Door pressure can be evaluated by inserting a dollar bill in several positions and tugging on it. See Parts Section for kit to increase door sealing pressure.

Loading Door Hinge Removal

A. First remove loading door, front panel, and trim ring.
B. Remove 3 screws holding door hinge. Shims may be present between hinge and tub front. The number may be increased or decreased to adjust right side door pressure.

NOTE: Door hinge mounting bolts penetrate tub front and require silicone sealer applied to holes when reinstalling.

Back Panel Removal

A. Remove all screws holding back panel in position except the bottom row.
B. The bottom row of screws are slotted and only need to be loosened and the panel will lift off.

Note: The back panel is not only a safety requirement but also contributes to the rigidity of the cabinet.

Drive Belt Removal

Turn the drive belt(s) off the basket pulley first and then remove from the motor pulley.
Reverse this procedure for installation.

Note: Both models have two drive belts that should be replaced in pairs.

Drive Motor

Refer to Specifications Chart for horse power and amperage draw on motors.

Removal

A. Remove the drive belt as explained above.
B. Remove the tension spring and bracket.
C. Disconnect the motor wires in the control area at the top of the machine.
The motor wire retaining clamp should be removed and reused. There is a diagram showing where each motor wire plugs in so there is no need to mark them.
D. Loosen the set screws on the motor support shaft.
E. Remove the retaining bolt from the front of the support shaft.
F. Remove the motor support shaft.
G. Lift motor out of machine.

Note: On larger washers it is advisable to put a board under the motor and slide it out rather than lifting it.

Control Panel Name Plate

The name plate on washer front is adhesive backed.

Removal

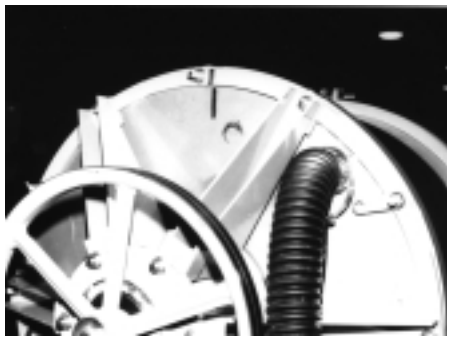
A. The name plate may be removed by simply peeling it off.

Installation

A. Remove any remaining glue from the control panel.
B. Before removing the paper backing from the name plate, check fit to the control panel.
C. Remove the paper backing from the right side of the name plate, position it on the panel and press right end into place, then peel the
backing from the left end and press into place.

Tub Back, Bearing and Cylinder (basket) Assembly

Removal



A. Remove the top and back panel as described previously.
B. Move the rear channel, that the water valves mount to, forward by removing the five mounting screws.
C. Remove the drive belt.
D. Remove the overflow hose, tub fill hose (chemical injection assembly) and pressure switch hose from the back of the tub.
E. Mark the tub back and bearing assembly for ease in assembly later.
F. Remove the 12 bolts and nuts from the perimeter of the tub back clamp ring. Two of the twelve bolts are longer and go through the thicker part of the brace where it connects to the frame.
G. Remove the 2 bolts that fasten the clamp ring to the frame.
H. The entire tub back and cylinder assembly may be lifted out of the tub (it may be necessary to break the adhesion of the silicone that seals the tub back to the tub). Blocks should be placed under the edges of the cylinder before setting it down to prevent damage to the cylinder flange.

Reassembly

Reverse the procedures above paying attention to the following areas

A. Lay the washer on its front.

Note: Put a thick pad across the front of the washer, above the door, to protect the door handle and coin acceptor.

B. Make sure the bearing housing weep holes are located at 12 o'clock and 6 o'clock.
C. Clean the silicone rubber from the back of the outer tub and the perimeter of the tub back where the two meet. There is no gasket in this area.
D. Apply a new bead of silicone rubber around the back of the outer tub.
E. Lower the tub back, bearing and cylinder assembly into the washer outer tub.
F. Torque all bolts according to the following chart.

Bolt Torque Chart

Bolt Size	Where Used	T-400 Torque	T-600 Torque
1/2" bolt	Tub End of Bearing Housing	70-110 ft/lbs	
5/8" bolt	Tub End of Bearing Housing		120-150 ft/lbs
1/2" bolt	Mounting of Tub to Cradle Assembly	70-110 ft/lbs	
5/8" bolt	Mounting of Tub to Cradle Assembly		120-150 ft/lbs
3/8" bolt	Tub Back Rings to Tub Back	45-80 ft/lbs	
7/16" bolt	Tub Back Rings to Tub Back		100-125 ft/lbs
3/8" bolt	Pulley End of Bearing Housing	45-80 ft/lbs	
7/16" bolt	Pulley End of Bearing Housing		100-125 ft/lbs
1/2" bolt	Outer Tub Clamping Band - Top	30-40 ft/lbs	
5/8" bolt	Outer Tub Clamping Band - Top		60-80 ft/lbs
1/2" bolt	Basket Pulley to Shaft	45-80 ft/lbs	
5/8" bolt	Basket Pulley to Shaft		100-125 ft/lbs

Basket Pulley

The cast iron basket pulley is retained by a bolt, locking washer and a flat washer.

Removal

A. Insert a large screw driver or punch through a spoke in the pulley into the bearing housing support. This keeps the pulley from turning.
B. Remove the retaining bolt, lockwasher and flat washer and reinstall just the bolt.
C. Use a puller to remove the pulley from the shaft. (get puller part#)

Reassembly

A. Make sure that the tolerance ring is in place inside the pulley.
B. The shoulder inside the pulley that holds the tolerance ring should face the back of the washer when installed correctly.
C. Use a stack of flat washers and a longer bolt to press the pulley onto the basket shaft.
D. Reinstall the retaining bolt, lock washer and flat washer. The shaft end bolt with washer should be installed with a torque of 45 ft/lbs.

Bearing Housing, Water Seals and Tub Back

Removal From Basket Shaft

A. Remove assembly from washer
(see Tub Back, Bearing and Cylinder (basket) Assembly removal).

B. Remove basket pulley (see Basket Pulley removal).

C. It is necessary to use a puller to remove the bearing housing assembly from the cylinder shaft. There is a flange on the bearing housing that may be used with a three jaw puller (see Parts Section for puller).

Disassembly

A. To remove the tub back assembly, the 6 bolts attaching it to the bearing housing must be removed.

B. Remove water seals from the seal mounting plate on the cylinder shaft. These are removed with your fingers.

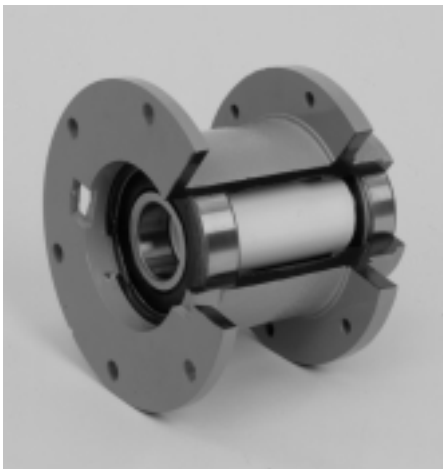
IMPORTANT- Be careful not to move the flat metal plate that mounts the two rubber sealing rings on the cylinder shaft. The location of this seal mounting plate is critical and it must not be moved. The two sealing rings can be replaced without disturbing it. The included illustration shows the proper location of this plate for T-400 washer. T-600 washers have the plate located against a stop on the shaft.

C. The retaining ring next to the front bearing must also be removed.

D. The bearings are pressed into the housing and must be pressed back out.

Reassembly

A. When installing new bearings into a bearing housing, first press the front (large) bearing into the housing until it bottoms. With the bearing spacer in place, press the rear bearing in until the spacer is snug between the two bearings. Be sure and reinstall the retaining ring in front of the front bearing.

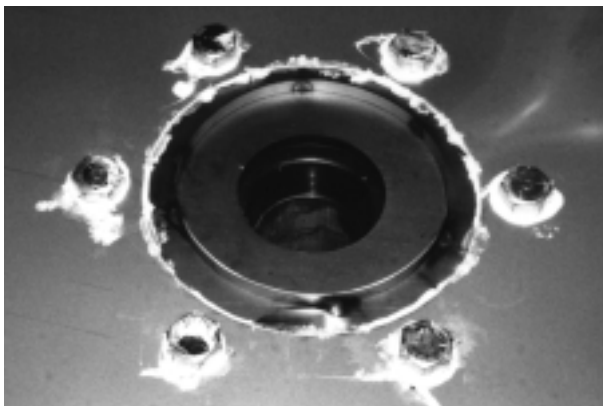


B. The tub back assembly should be reattached to the bearing housing with the 6 mounting bolts and torqued according to the torque chart.

Note: If the tub-back water-seal mating ring has been moved it must be cleaned and resealed with silastic around all 6 bolt holes and around the outer edge.

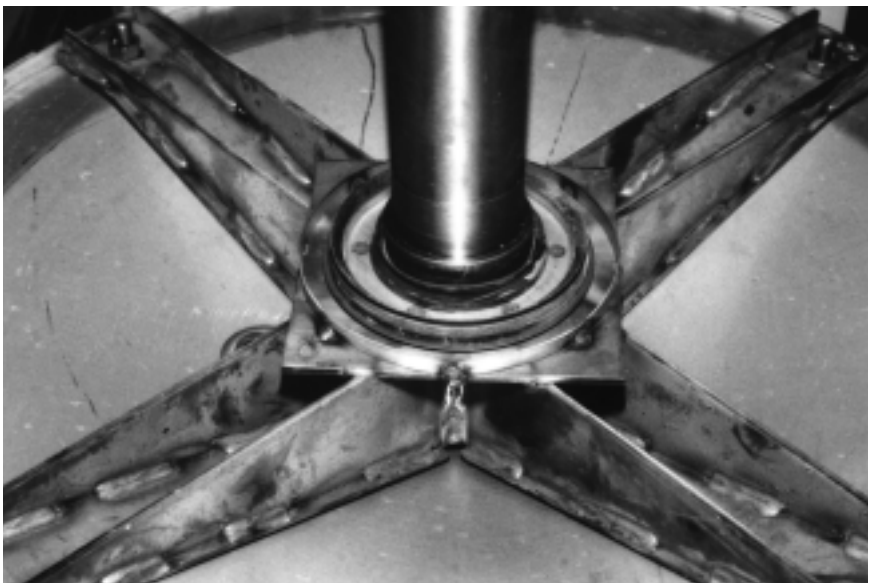
If the 6 support assemblies have been removed from the bearing housing, the 6 rear bearing housing bolts should be torqued according to the chart also.

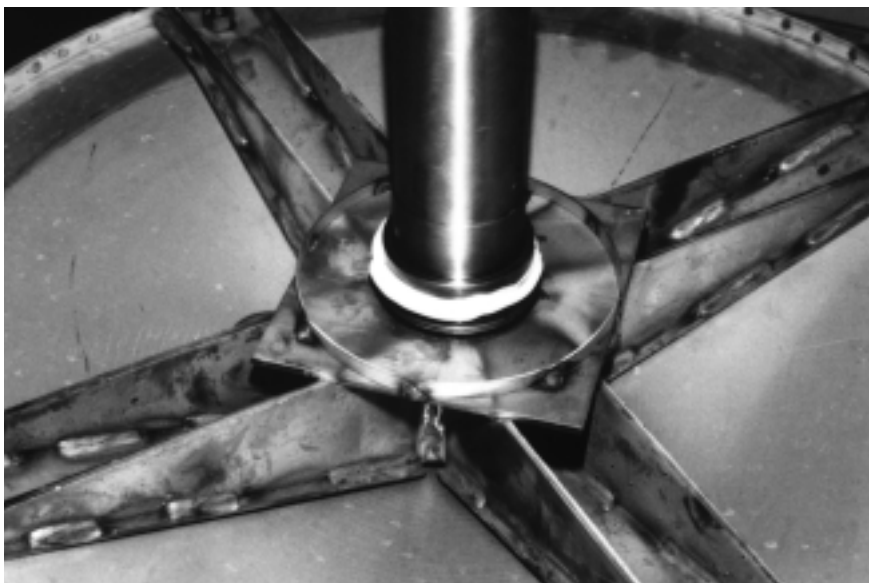
C. The primary and secondary seals that mount on the sealing ring may be slid over the shaft and seated on the metal sealing ring. In the unlikely event that the metal ring that mounts these sealing rings were to be damaged or moved, a new one would need to be pressed on. The T-400 ring would need to be pressed on to the dimension shown in the following illustration. The T-600 ring must be pushed against the stop on the shaft. After installing the seals, lubricate the faces of the seals with silicone grease.



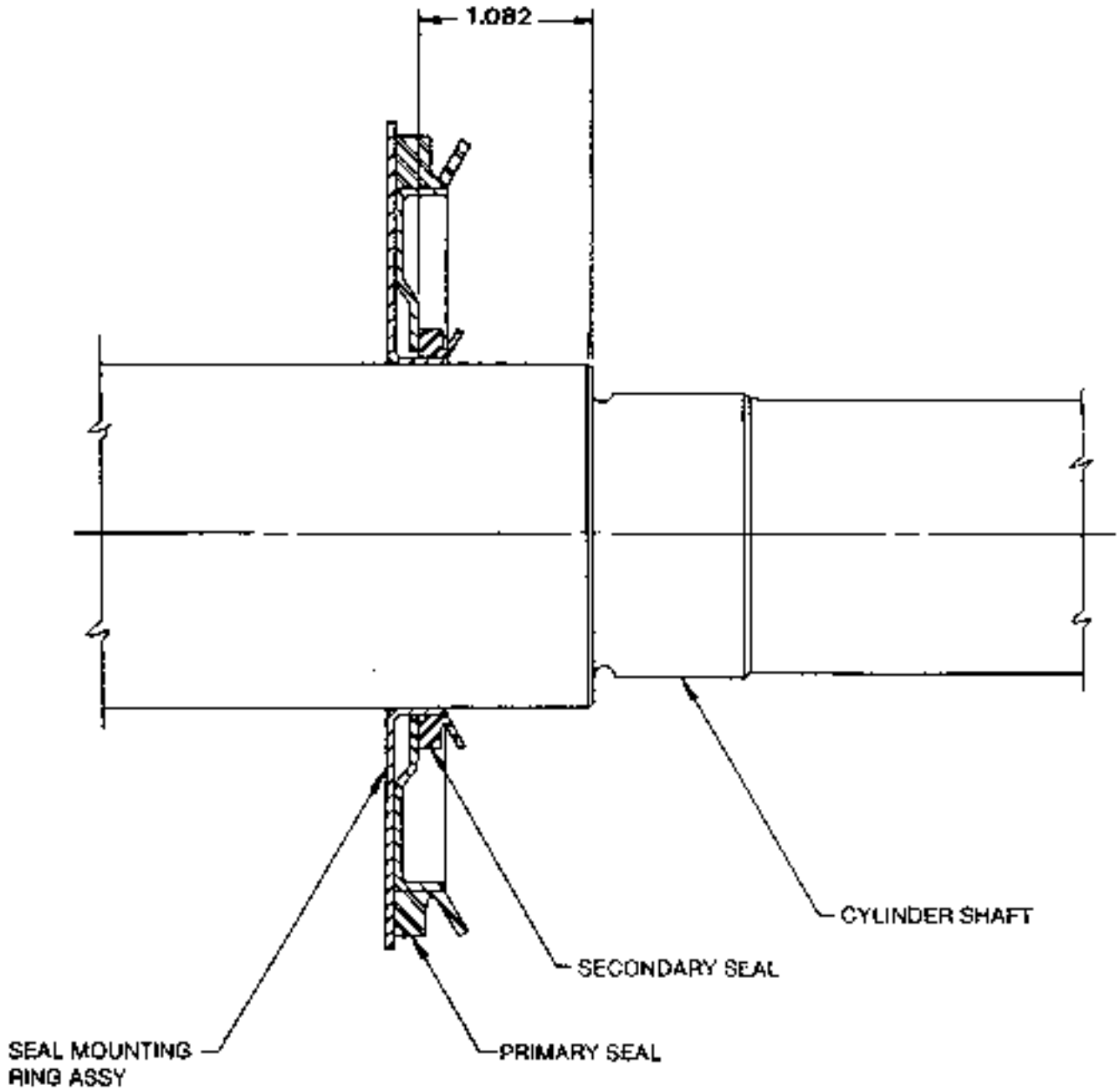
Reinstallation onto Basket Shaft

A. Carefully set the assembly over the shaft engaging the bearings and bearing spacer.
B. The tolerance ring that fits inside the pulley should be placed in position (see Basket Pulley Reassembly for correct positioning).
C. The pulley should then be started onto the shaft. A stack of flat washers and a longer pulley bolt will be required to pull the basket shaft through the bearings.
D. Install the shaft end bolt with washers with a torque of 45 foot-lbs.
E. See Tub Back, Bearing and Cylinder Assembly for installation of complete assembly back into washer.





T-400 SEAL RING LOCATION



SEAL ASSY AND CYLINDER SHAFT

Outer Tub

Removal

A. Remove the tub back, bearing and cylinder assembly (see Tub Back, Bearing and Cylinder (basket) Assembly removal).
B. Disconnect pressure switch hose from bottom of outer tub.
C. Disconnect drain hose from bottom of outer tub.
D. Disconnect large detergent dispenser hose from top of outer tub.
E. Remove masking ring (door lock cover).
F. Remove door lock assembly from front of outer tub.
G. Remove loading door and hinge from tub front.
H. Remove front strap from outer tub.

Reassembly

A. If the front strap is removed, attach the two front chassis mounting bolts loosely. Then tighten the top strap bolt before tightening the two band-to-chassis bolts.
B. Reverse the above proceedures.

Removal of Cabinet

A. The power supply, water hoses, and drain connection must all be disconnected before proceeding with the disassembly.
B. Now remove the lower service panel and the top panel assembly.
C. Remove the left and right lower front panel screws that retain the panel to the chassis.
D. Remove the bottom row of back panel screws.
E. Remove the loading door.
F. Remove the screws along the bottom of each side panel. When reinstalling these screws do not overtighten.
G. Remove clamp and soap dispenser hose where it attaches to the tub inlet.
H. Disconnect the door lock wires from all switches and the door lock solenoid. The following illustration of their locations should be consulted.
I. Disconnect pull rod between solenoid and door lock assembly.
J. Disconnect the wires to the drain valve at the bottom of the machine.
K. Disconnect the wires to the drive motor. There is a motor harness connector in the left rear corner of the control trough. The connector may be removed from the side of the trough by releasing the retainer ears. The wires from the trough components to the motor harness may be removed from the top side of the connector. There is a label on the trough floor to aid in reconnection of the wires to the connector.
L. Remove the clamp and the hose from the vacuum breaker where it connects to the inlet on the back of the tub.
M. Remove the pressure switch hose from the bottom of the switch.
N. It should now be possible for two people to lift the cabinet up and off of the front of the machine and set if aside.

Section 5
Trouble Shooting

Symptom	Probable Cause	Suggested Remedy
Machine does not start Voltage,	Power Supply	Check these areas: Circuit breakers, Power leads, Power connections
	“Start” Switch	When actuated there must be continuity through the contacts on the start switch.
	“Pause-Run” Switch	Must be in “Run” position and should have continuity through the switch.
	“Off-On” Switch	Check for continuity in "On" position. If no continuity, replace breaker.
	Door Switch	Check for continuity through door switch when door closed. If no continuity, adjust or replace switch.
	Control Breaker	Check 1.5 amp breaker for continuity. If no continuity, replace breaker.
	Timer	Check to insure that the timer is in the "off" position to supply 120VAC through the “Start” cam to the start switch.
	Timer, Rapid	Check the rapid advance motor for continuity and Advance Motor replace if no continuity.
	Control Transformer	Check voltage output from control trans former for (3 phase only) 120VAC. If voltage is incorrect, replace transformer.
Door does not lock	Timer Position	The following sequence must have taken place to advance the timer before the door locks. 1. Loading door closed. 2. Timer initially in “Off” position. 3. Pause-Run in “Run” position. 4. Off-On in “On” position. 5. Push Start button. 6. Timer advances to “On” position.
	Door locking solenoid	Check to insure that solenoid is receiving 120VAC from input/output board. If it is, replace solenoid.
	Door Switch	Check for continuity through door latch switch when door closed. If no continuity, adjust or replace door switch.

Symptom	Probable Cause	Suggested Remedy
Door will not open	Thermoactuator	Check to see if thermoactuator(s) and/or its mechanism is stuck or binding and not allowing the door lock solenoid to open. Check to be sure that the locking thermoactuator is not receiving 120VAC during the last 1 1/2 minutes of the cycle. Also check to see that the unlocking thermoactuator is receiving 120VAC during the last minute of the cycle. If the thermoactuators do not receive voltage at the correct times, change the timer. If the timing and voltage is correct, replace the thermoactuator.
	Door Rod	Check to see that door rod from solenoid to lock ass'y is long enough to allow lock ass'y to disengage. If not, adjust rod.
	Door Lock Solenoid	Check that door lock solenoid is not stuck closed. If stuck, replace solenoid.
	Timer	Make sure machine is in "off" position allowing Timer to authorize door unlock.
Machine starts but timer will not advance	Water Valves	Check to insure that water valves are operating. If not, check for 120VAC to water valve from timer. If 120VAC, clean screens. If still no operation, change water valve. If no voltage check pressure switch then change timer.
	Drain Valve	Check to insure that drain valve is closing. If not, check for 120VAC to drain valve from timer. If 120VAC, change or clean drain valve. If no voltage, change timer.
	Fill Hose Screens & Water Valve Screens	Check all screens for obstructions and clean.
	Water	Check to insure that water is turned on and operating.
	Pressure Switch Hose	Check hose for holes. Be sure the inlet end of the large part of the hose is lower than the rest of the hose and is free of debris.
	Pressure Switch	Check to insure that pressure switch has continuity between #21 & #22 and #11 & #12. If no continuity, check pressure switch hose for obstruction. If hose okay, change pressure switch.
	Main Timer Drive Motor	If power is available to main timer drive motor but it doesn't run, replace timer motor.

Symptom	Probable Cause	Suggested Remedy
Machine tumbles in only one direction	Reversing Timer	Check to see that reversing timer is running. Check for alternating 120VAC at brn/wht and at org/grn from reversing timer to signal reversing operation to relays. If not running or no voltage, replace reversing timer.
Machine starts and advances through cycle	Reversing Timer	Check to see that reversing timer is running. Check for alternating 120VAC at brn/wht and at but motor does not operate org/grn from reversing timer to signal reversing operation to relays. If not running or no voltage, replace reversing timer.
Hot water does replace if not enter tub in wash	Water Valve Coil	Check coil continuity at terminals and no continuity.
	Water Inlet Screens	Check water inlet screens for blockage and clean if necessary.
	Water	Check to insure that water is turned on and operating.
	Pause-Run Switch	Check in run position for continuity. If no continuity, replace switch.
	Timer	Advance machine into wash cycle and check for 120VAC at red/blue wire coming from timer.
	Water Temperature Selector Switch	Check switch for continuity between red/blue wire and red/yellow wire when Hot is selected. If no continuity, change switch.
	High Water Level Relay	Check for continuity across N.C. contacts of high water level relay. If no continuity, replace relay.
	Pressure Switch	Check pressure switch continuity between terminals #11 & #12. If no continuity, check pressure switch hose for obstruction. If hose okay, change pressure switch.
No cold water to tub in wash	Water Valve Coil	Check coil continuity at terminals and replace if no continuity.
	Water Inlet	Check water inlet screens for blockage and
	Screens	clean if necessary.
	Water	Check to insure that water is turned on and operating.
	Pressure Switch	Check pressure switch continuity between terminals #11 & #12. If no continuity, check pressure switch hose for obstruction. If hose okay, change pressure switch.

Symptom	Probable Cause	Suggested Remedy
No cold water to tub in wash (continued)	Pause-Run Switch	Check in run position for continuity. If no continuity, replace switch.
	Timer	Choose cold cycle, advance to wash, check for voltage on white/black from timer. If no voltage, replace timer.
	Water Temperature	Choose cold cycle, advance to wash and check Selector Switch wht/org wire from selector switch for 120VAC. If no voltage, change switch.
	High Water Level Relay	Check for continuity across N.C. contacts of high water level relay. If no continuity, replace relay.
	Hot Rinse Relay	Check for continuity across N.C. contacts of hot rinse relay. If no continuity, replace relay.
No hot water no in detergent dispenser	Water Valve Coil	Check coil continuity at terminals and replace if continuity.
	Water Inlet Screens	Check water inlet screens for blockage and clean if necessary.
	Water	Check to insure that water is turned on and operating.
	Pause-Run Switch	Check in run position for continuity. If no continuity, replace switch.
	Timer	Advance to wash, check for voltage on red/org from timer. If no voltage, replace timer.
Water does not flush softener compartment.	Water Valve Coil	Check coil continuity at terminals and replace if no continuity.
	Water Inlet Screens	Check water inlet screens for blockage and clean if necessary.
	Water	Check to insure that water is turned on and operating.
	Pause-Run Switch	Check in run position for continuity. If no continuity, replace switch.
	Pressure Switch	Check pressure switch continuity between terminals #11 & #12. If no continuity, check pressure switch hose for obstruction. If hose okay, change pressure switch.
	Timer	Advance machine to final rinse and check for voltage at wht/blue wire coming from timer. If no voltage, replace timer.

Symptom	Probable Cause	Suggested Remedy
	High Water Level Relay.	Check for continuity across N.C. contacts of high water level relay. If no continuity, replace relay.
Water comes in but level does not rise	Drain Valve (open)	Check these areas - Drain valve blockage - Drain valve motor and gear train. If power but drain valve does not close, replace valve. - Power to the drain valve. If no power to drain valve, check (brn/yel) circuit for power.
Water level too high	Pressure Switch	Check for blockage in pressure switch hose. Check for pressure switch opening circuit across terminals #21 & #12. Replace switch if contacts do not open.
	High Water Level Relay	Check for continuity across N.C. contacts of high water level relay. If no continuity, replace relay.
Water drains slowly	Drain System	Check hoses and drain valve for blockage. Clean if necessary. Check building drains for blockage or inadequate size.
Water leakage	Door Adjustment	Door may need adjustment due to abuse or around loading wear. Check tightness around perimeter using a dollar door bill. Adjust left to right tightness by shims at door lock or hinge side. It is important to center gasket to tub opening before tightening door to hinge bolts. Chalk may be used on tub front to show point of contact with tub. If gasket is deformed, worn, or damaged, replace. Refer to parts section for door gasket expander kit.
Excessive vibration	Mounting System	Check these areas: - Strength of mounting structure, concrete or base. - Mounting bolts may be loose and need tightening.
	Drive Belt	- Worn drive belt can cause vibration and noise.
	Pulleys	- Damaged pulleys.
	LOADING	**- NOTE: SMALL LOADS CONTRIBUTE TO OUT OF BALANCE LOADING AND INCREASE VIBRATION.**

Machine does not spin	Spin Relay	Check spin relay coil for continuity replace if nocoil continuity. Check relay contacts, replace if no continuity.
	Pressure Switch	-Check pressure switch for continuity across terminals #1 & #2 indicating “ pressure switch has reset to the empty position. If no continuity, changepressure switch.

Parts Data

Thoroughbred 400

Accessories

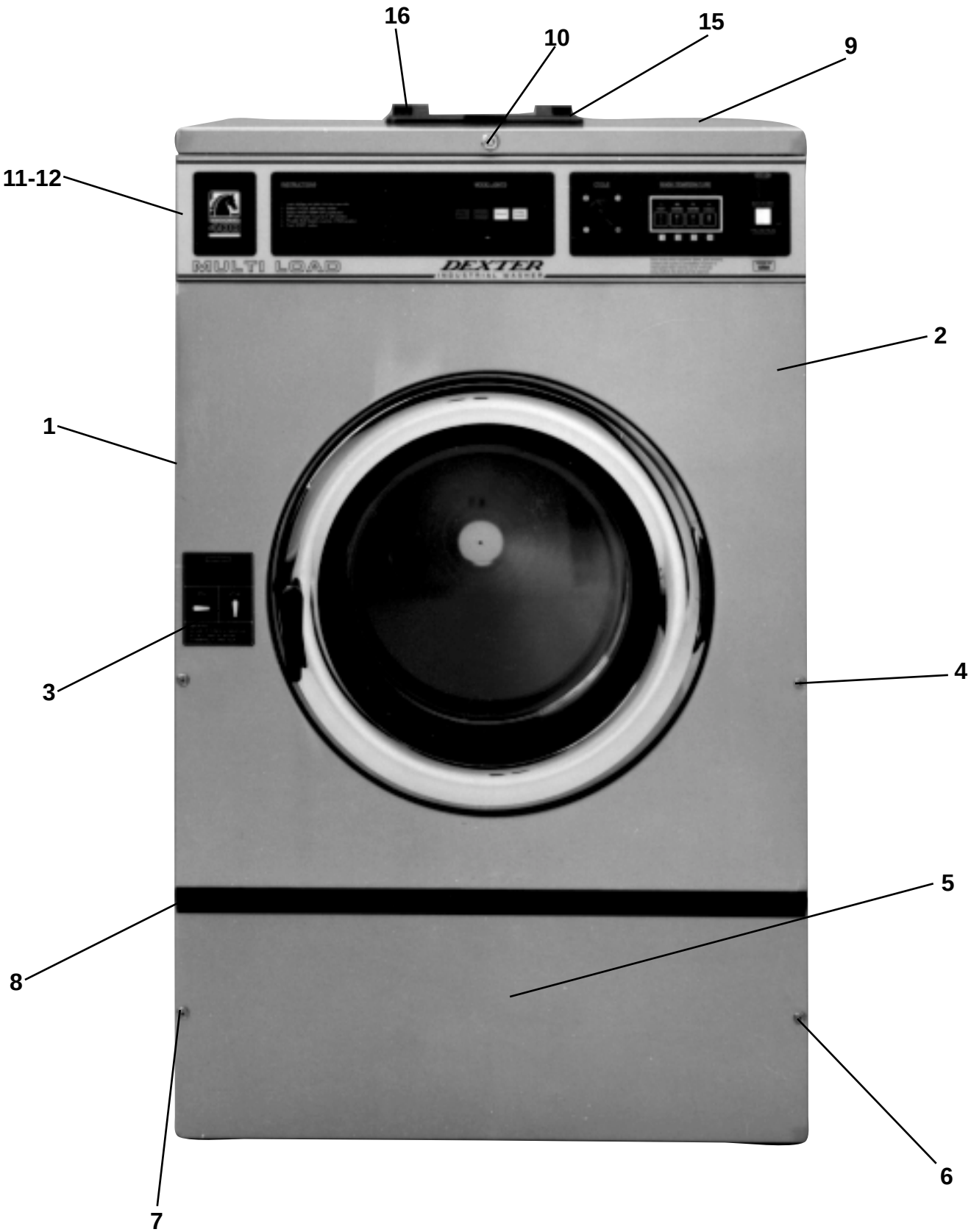
Models	WCN25AADX	220-240 volts	60hz.	Single Phase
	WCN25ABDX	208-240 volts	60hz.	Three Phase

			MODELS WCN25	
			A A	A B
	Part Number	**Description**		
	9990-027-011	Hose, Water Supply (furnished)	2	2
	8641-242-000	Washer, Inlet Hose (furnished)	2	2
	9565-003-001	Strainer, Inlet Hose (furnished)	2	2
	9732-139-002	Kit, Door Gasket Expander (large)	1	1
	9732-139-001	Kit, Door Gasket Expander (small)	1	1
Grip-O-Matic #1038		Puller, Bearing Housing (available through Standard Bearing Company)		
	9990-027-013	Hose , Water supply 5/8" I.D. x 48" (optional)	2	2
	9242-417-001	Drain Hose 10 ft length x 2-1/4" I.D. (optional)		
	9242-417-003	Drain Hose 10 ft length x 3" I.D. (optional)		
	8641-586-002	Bevel Washer for 5/8" bolt used in installations using angle iron bases		
	8641-586-003	Bevel Washer for 3/4" bolt used in installations using angle iron bases		
	9732-141-001	Manual Operation Kit		
	9539-474-001	Switch, Blk/Red (included in kit)	1	1
	9539-474-002	Switch, Blk/Wht (included in kit)	1	1
	8545-051-003	T-10 Torx for removing coin acceptor mounting screws		
	8545-055-002	Electrical Probe 100-600 VAC		
	8545-055-001	Electrical Probe 24-90 VAC		
	8538-151-001	Sealing Compound		

Cabinet and Front Panel Group

Key	Part Number	Description	MODELS WCN25 A A	MODELS WCN25 A B
1	9454-656-003	Panel, Side (Left or Right) - Gray	2	2
1	9454-656-001	Panel, Side (Left or Right) - Stainless	2	2
*	9545-018-013	Screw, (Side Panel to Base)	6	6
*	8640-414-006	Nut, Hex	6	6
*	9029-066-001	Bracket, Side Panel	1	1
*	8640-413-002	Nut, Hex	2	2
*	9545-008-026	Screw	2	2
2	6454-659-001	Panel Assy, Front	1	1
*	9059-063-002	Band, Edge Protector	1	1
*	8640-399-008	Nut, Spring (Attaches Top of Panel)	3	3
*	9545-008-026	Screw, Hex (Attaches Top of Panel)	5	5
3	8502-624-002	Label, Door Opening	1	1
4	9545-008-014	Screw, Flat Head	4	4
4	8641-585-001	Washer, Finish	4	4
*	9545-008-023	Screw, Guide	2	2
6	8640-399-008	Nut, Spring	2	2
8	9244-081-002	Lower Door Handle	1	1
5	9108-097-001	Door, Lower Service	1	1
6	9545-008-014	Screw Mtg., Flat Head	2	2
6	8641-585-001	Washer, Finish	2	2
*	9545-008-023	Screw, Guide	4	4
7	8640-399-008	Nut, Spring	2	2
9	9454-663-001	Panel, Top	1	1
10	8650-012-003	Lock, Top (w/Key)	1	1
*	9306-025-001	Key, Top-6324	1	1
*	9095-038-001	Cam, Lock-Top	1	1
*	8640-426-001	Nut, 9/32	1	1
*	8641-581-008	Washer	1	1
*	9086-017-001	Catch, Top Panel	2	2
*	9467-024-001	Post, Top Locator	2	2
*	8640-411-003	Nut, Keps	2	2
*	9355-001-001	Locator, Panel	2	2
*	9545-008-025	Screw, #10	2	2
11	9412-095-002	Nameplate, Control Panel	1	1
12	9989-458-001	Panel, Control (Mounts Nameplate)	1	1
*	9545-008-006	Screw, Control Panel Mtg	4	4
15	9108-095-003	Door, Dispenser	1	1
*	9451-191-001	Pin, Plain	2	2
16	9467-025-001	Post,Door Mounting	2	2
*	9545-045-002	Screws, Dispenser Post Mtg.	4	4
*	9545-008-012	Screws, Dispenser Mounting	4	4
*	8640-399-007	Nuts, Spring	4	4

* Not Illustrated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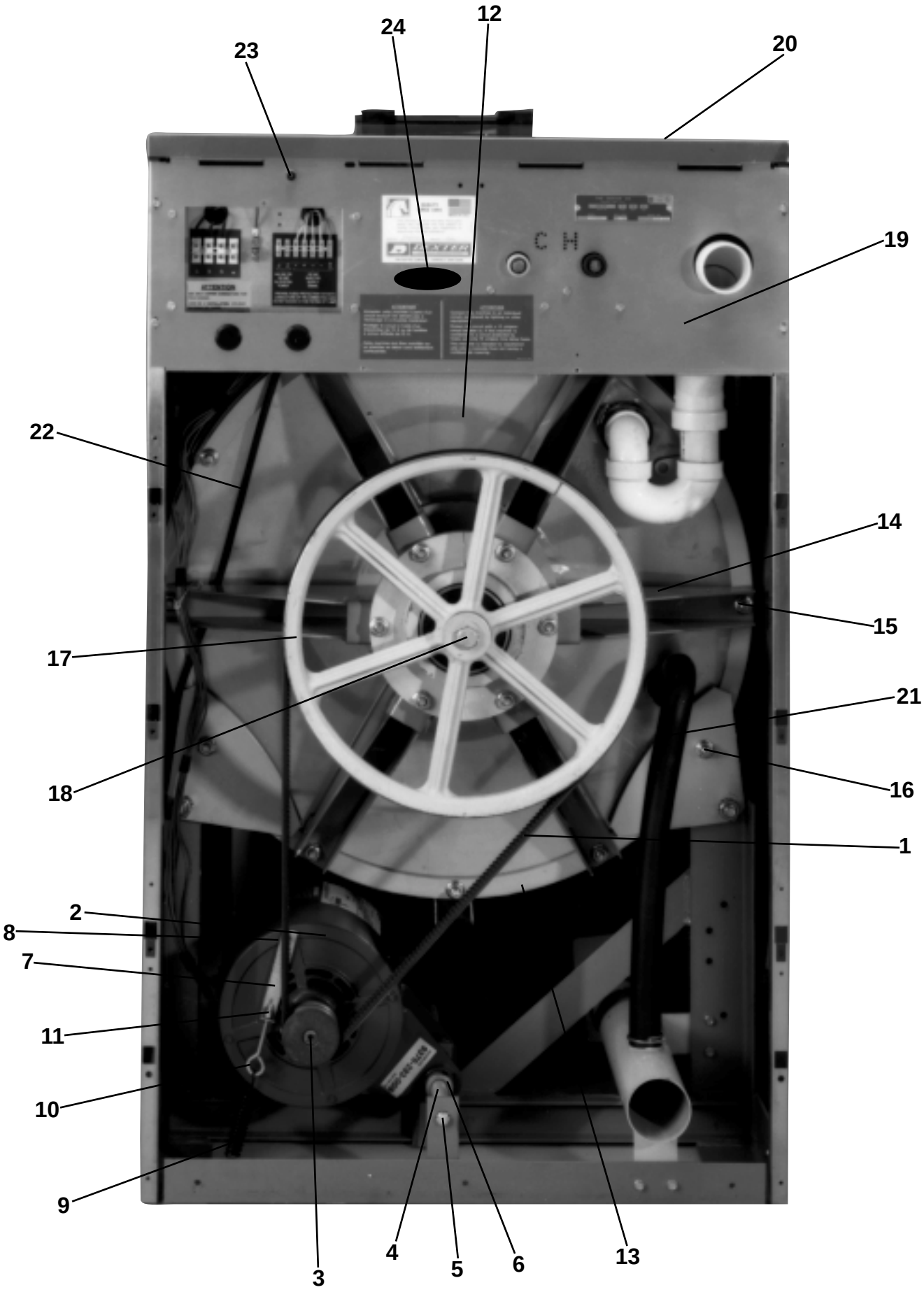
REAR VIEW

Key	Part Number	Description	MODELS WCN25 AA	MODELS WCN25 AB
1	9040-076-005	Drive Belt	2	2
2	9732-127-001	Drive Motor, 1 Phase	1	
2	9732-127-002	Drive Motor, 3 Phase		1
3	9453-170-002	Pulley, Motor	1	1
*	9545-028-015	Set Screw, Sq. Hd.	2	2
4	9497-222-002	Rod, Motor Mtg	1	1
5	9545-029-005	Screw (end of motor rod)	1	1
5	8641-582-014	Lockwasher (end of motor rod)	1	1
6	9076-052-002	Collar, Shaft (w/set screws)	3	3
*	9053-074-001	Bushing, Motor Hangar (for Magna-Tek Motors)	2	2
7	9029-027-003	Strap, Motor Tension	1	1
8	8640-413-002	Nut, Strap to Motor	1	1
8	8641-581-006	Washer	1	1
9	9534-319-002	Spring, Belt Tension	1	1
10	9545-055-001	Bolt, Eye	1	1
11	8640-414-003	Nut, 1/4 Elastic Stop	1	1
12	9732-137-002	Back Assy. Tub	1	1
13	9950-041-002	Ring Assy., Tub Mtg.- Rear	1	1
14	9991-048-002	Support Assy., Bearing Hsg.	6	6
15	9545-029-003	Screw, 1 1/2	10	10
16	9545-029-006	Screw, 1 3/4	2	2
*	8640-415-004	Nut, Flange Lock	12	12
*	9552-038-003	Shim	AR	AR
17	9453-168-004	Pulley, Driven	1	1
18	9545-017-009	Screw	1	1
18	8641-581-026	Washer, Flat	1	1
18	8641-582-016	Lockwasher	1	1
19	9081-115-001	Channel, Rear	1	1
*	9545-008-026	Screw	4	4
*	8640-399-004	Nut, Spring	4	4
*	9454-655-002	Panel, Back Guard	1	1
20	9454-663-001	Panel, Top	1	1
21	9242-449-002	Hose, Overflow	1	1
*	8654-029-000	Clamp, Hose	2	2
*	9989-446-002	Panel Assy., Back	1	1
*	9545-008-026	Screw	10	10
*	8640-399-004	Nut, Spring	10	10
22	9242-175-000	Hose, Pressure Switch	1	1
*	8654-117-015	Clamp, Pressure Sw. Hose	1	1
23	5198-211-004	Circuit Breaker, 1.5 amp	1	1
24	9242-463-002	Overflow Hose 11”	1	1

* Not Illustrated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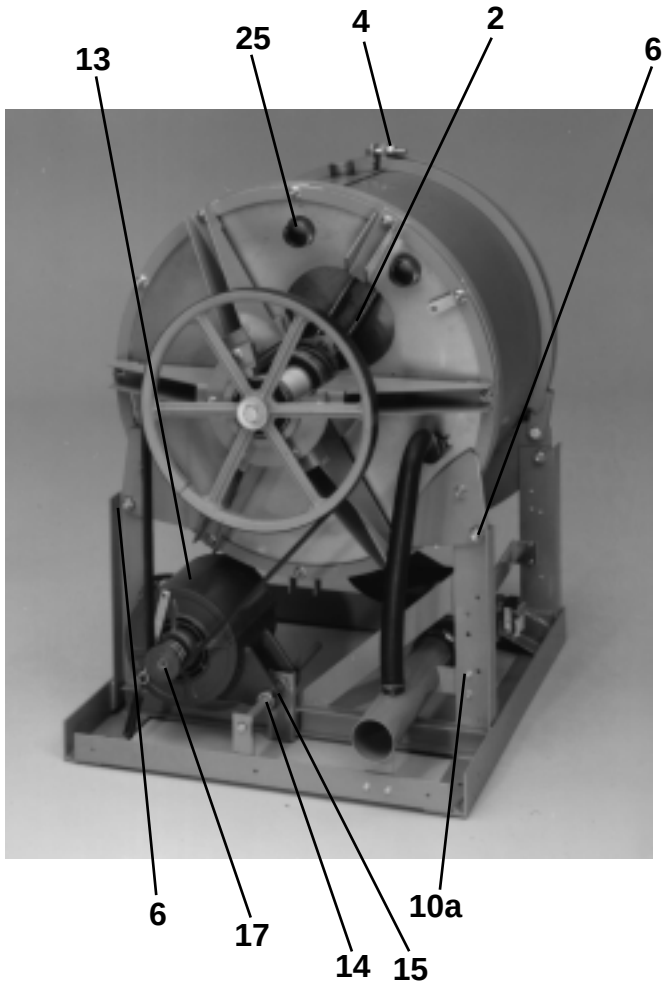
Chassis and Drain Group

Key	Part Number	Description	MODELS WCN25 AAA	AAB
1	9945-087-002	Base Assy, Frame	1	1
2	9930-137-001	Tub Assy	1	1
3	9950-051-002	Ring Assy, Tub Mtg-Front	1	1
4	9545-017-003	Bolt, Top Front Ring	1	1
4	8641-582-016	Lockwasher	1	1
4	8640-417-002	Nut	1	1
5	9950-041-002	Ring Assy, Tub Mtg-Rear	1	1
5a	9950-054-002	Ring Ass'y--Seal Tubback	1	1
6	9545-017-009	Screw, Front & Rear Rings to Base	4	4
6	8641-582-016	Lockwasher	4	4
6	8640-417-002	Nut	4	4
7	9379-187-001	Valve, Drain	1	1
8	9029-056-001	Bracket, Drain Valve	1	1
*	9545-048-001	Screw, Valve to Bracket	1	1
*	8641-581-018	Washer	1	1
9	9545-030-002	Screw, Bracket to Base	2	2
10	9915-119-002	Tube Assy, Drain	1	1
10a	9545-030-002	Screw, Tube Mtg	2	2
11	9242-456-001	Hose, Tub to Drain Valve	1	1
12	9242-457-001	Hose, Drain Valve to Tube	1	1
12a	8654-117-014	Clamp, Hose	4	4
13	9732-127-001	Motor, Drive (1 PH)	1	
13	9732-127-002	Motor, Drive (3 PH)		1
14	9497-222-002	Rod, Motor Mtg	1	1
15	9076-052-002	Collar, Shaft	2	2
16	9545-029-005	Screw, Motor Mtg Rod	1	1
16	8641-582-014	Lockwasher	1	1
17	9453-168-004	Pulley, Motor	1	1
*	9545-028-015	Set Screw, Sq. Hd	2	2
18	9040-076-005	Belts, Drive	2	2
*	9552-038-003	Shim, Support Assembly	AR	AR
19	9242-461-001	Hose, Vacuum Brkr. to Tub	1	1
20	9610-001-001	Vacuum Breaker	1	1
21	9029-078-001	Bracket, Vacuum Breaker	1	1
22	9545-008-005	Screw	4	4
*	9081-104-001	Channel, Rear	1	1
*	9475-002-002	Flow Restrictors	2	2
23	9122-005-004	Dispenser	1	1
24	9206-416-001	Gasket, Dispenser	1	1
25	9242-450-002	Hose, Dispenser to Tub	1	1
26	8654-117-008	Clamp, Dispenser Hose	2	2
25	9242-463-002	Overflow Vent hose 11”	1	1

* Not Illustrated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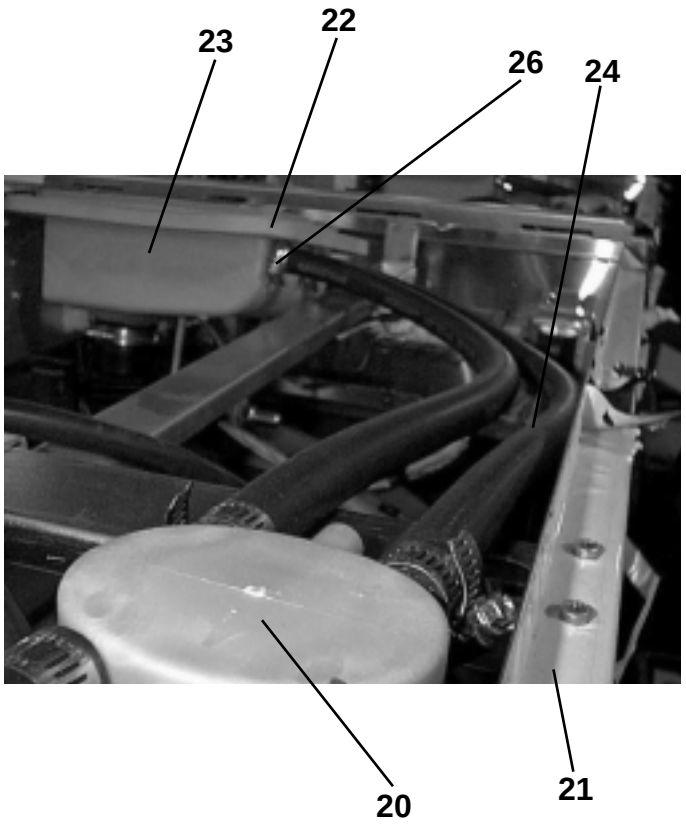
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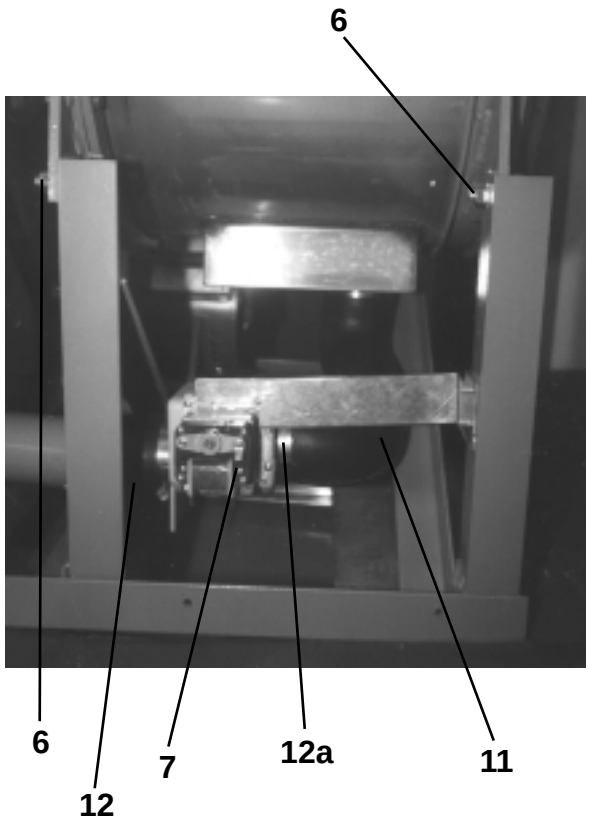
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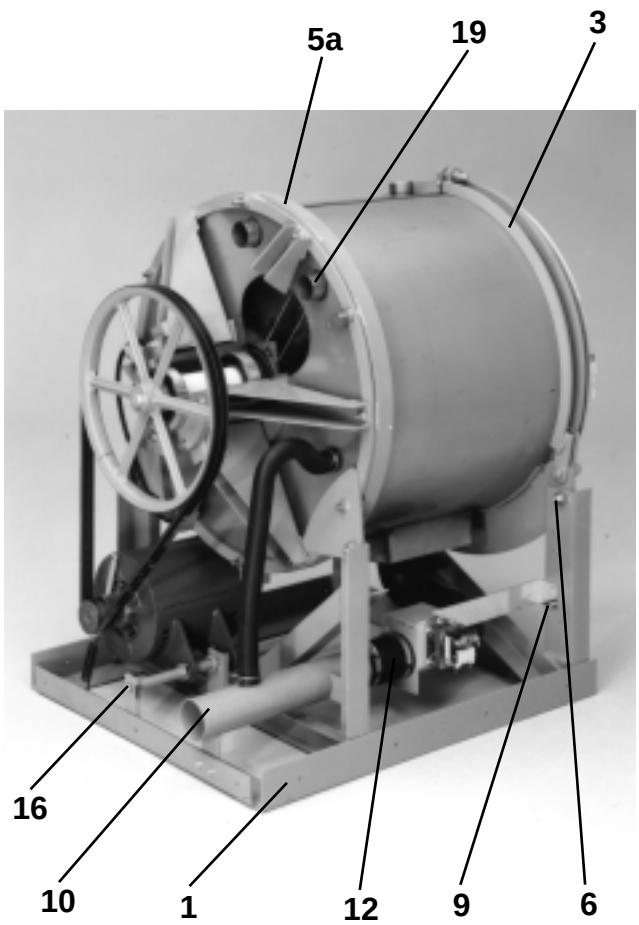
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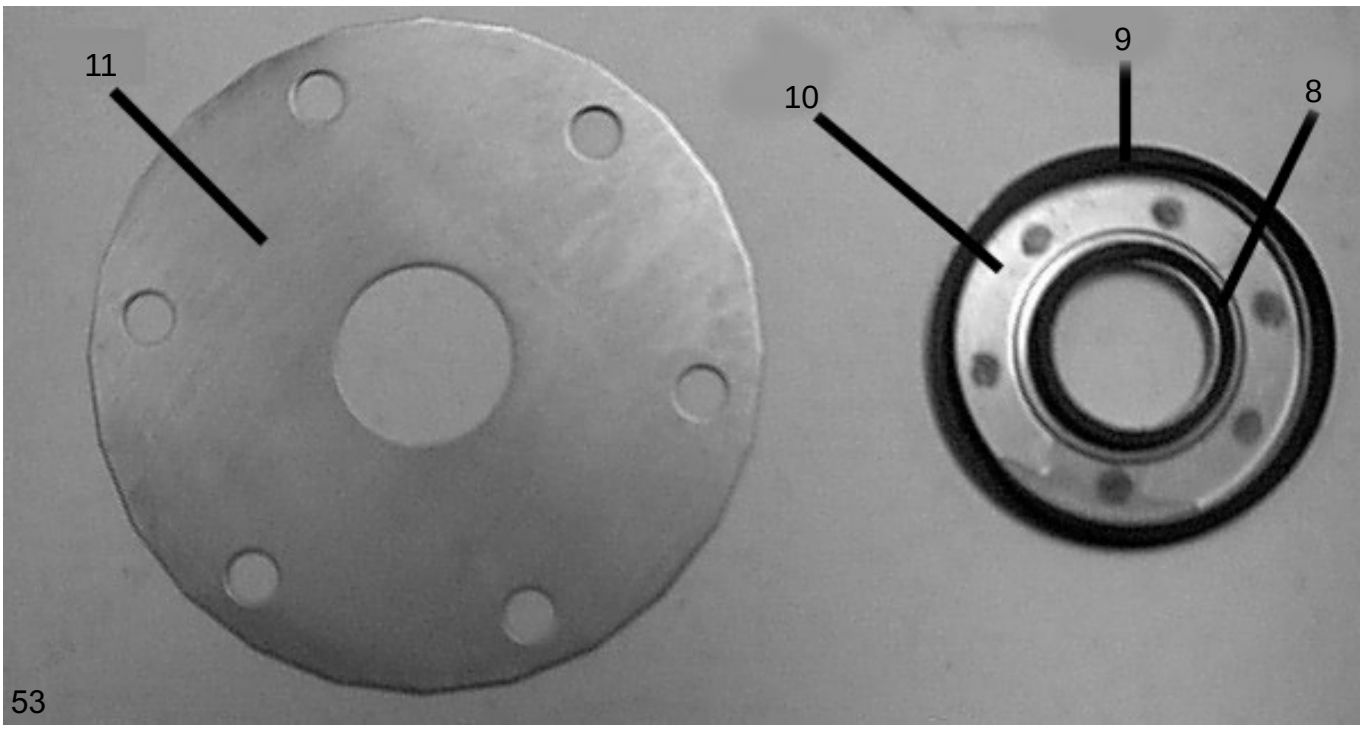
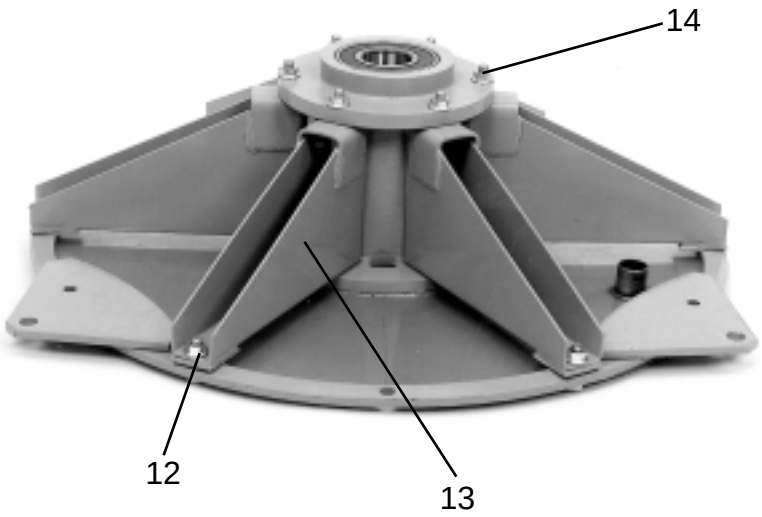
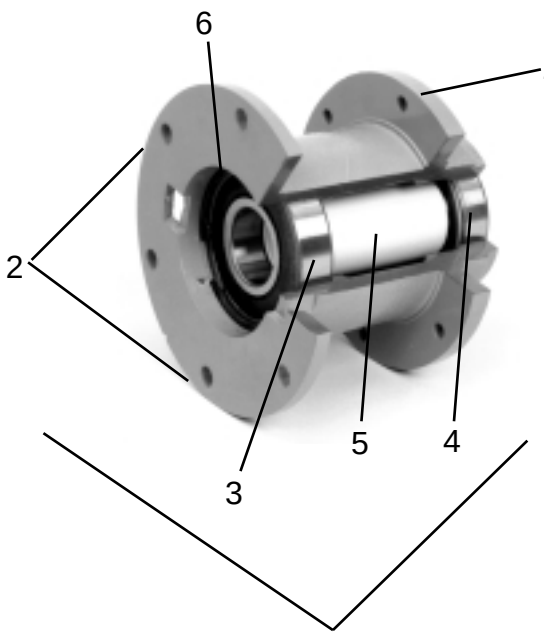
Cylinder, Water Seals & Bearing Housing group

Key	Part Number	Description	MODELS WCN25 A A	MODELS WCN25 A B
*	9803-179-002	Housing, Bearing- Assembly (includes items #2-#6)	1	1
2	9241-169-002	Housing, Bearing	1	1
3	9036-159-002	Bearing, Front	1	1
4	9036-159-001	Bearing, Rear	1	1
5	9538-158-001	Spacer, Bearing	1	1
6	9487-238-001	Ring, Bearing Retainer (internal type)	1	1
*	9848-109-001	Cylinder Assebly (complete)	1	1
7	9732-137-002	Back Assy, Tub	1	1
8	9532-140-006	Seal, Secondary	1	1
9	9532-140-009	Seal, Primary	1	1
10	9950-042-001	Ring, Seal Mtg	1	1
11	9487-261-002	Tub Back Mating Ring,(Between tub back and bearing housing)	1	1
12	9545-017-009	Bolt, 1/2" Tub End of Bearing Housing (1/2” x 1 1/4”)	6	6
12	8640-417-002	Nut	6	6
12	8641-582-016	Lockwasher 1/2” (ext. tooth)	6	6
13	9991-048-002	Support Arm Assy., Bearing Housing	6	6
14	9545-029-003	Bolt Pulley End of Bearing Housing (3/8” x 1 1/2”)	1	1
14	8640-415-004	Nut, Flange Locking 3/8”	1	1
*	9545-029-006	Bolt 3/8 x 1 1/2	2	2
15	9453-168-002	Pulley, Driven old style single belt (before # 425720)	1	1
15	9453-168-004	Pulley, Driven new style double belt (after # 425720)	1	1
*	9487-234-001	Ring, Tolerance	1	1
16	8641-581-026	Washer 1/2”	1	1
17	9545-017-009	Bolt 1/2” x 1 1/4”)	1	1
18	8641-582-016	Lockwasher 1/2” Ext. tooth	1	1

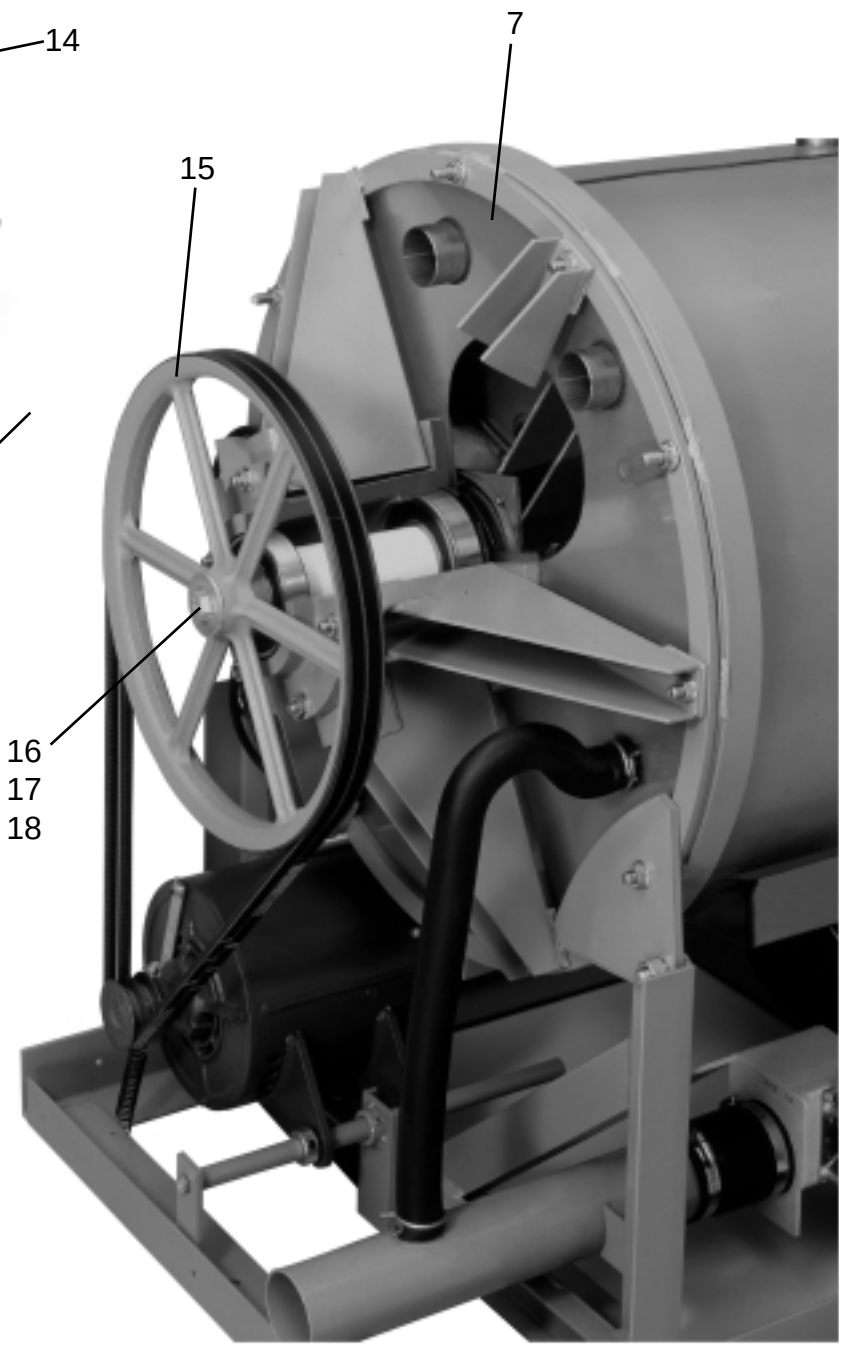
* Not Illustrate







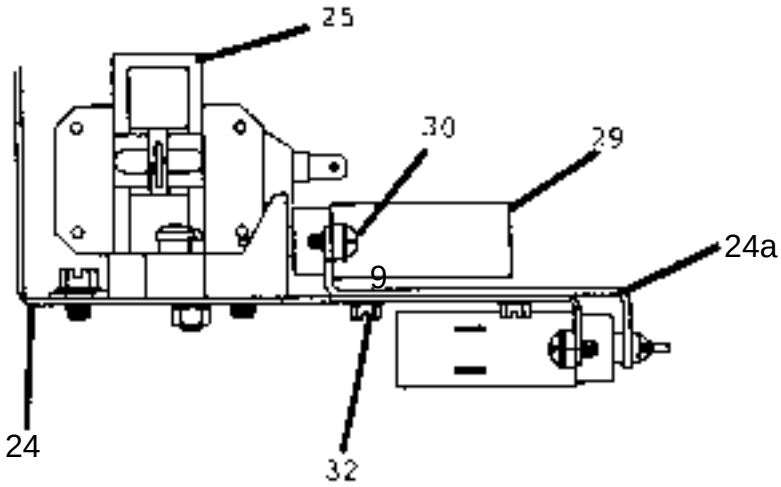
Housing Assembly



Door Lock Group

Key	Part Number	Description	MODELS WCN25 AA	MODELS WCN25 AB
*	9885-023-001	Lock Assy, Complete (includes #1 thru #23)	1	1
1	9982-284-001	Plate Assy, Door Lock	1	1
2	8641-581-030	Washer, Flat	1	1
3	9008-005-001	Actuator, Latching Switch	1	1
4	9450-002-002	Pawl, Locking	1	1
5	8641-569-003	Washer, Spring	1	1
6	9487-200-004	Ring, Retaining	1	1
7	9029-035-001	Bracket, Switch	1	1
8	8640-413-002	Nut, Hex	2	2
9	9534-364-002	Spring, Actuating	1	1
10	9545-012-020	Screw, Hx.	1	1
11	8640-413-004	Nut, Elastic Stop	2	2
12	9534-364-001	Spring, Return	2	2
13	9451-193-001	Pin, Guide	1	1
14	9487-200-005	Ring, Retaining	1	1
15	8641-581-031	Washer	2	2
16	9539-461-008	Switch, Latching Sensing	1	1
17	9550-169-003	Shield, Switch	3	3
18	9545-020-001	Screw	2	2
18	8640-401-001	Nut, Twin	2	2
19	9539-461-007	Switch, Locking Sensing	2	2
20	9008-006-002	Actuator, Switch	2	2
21	9545-020-003	Screw	2	2
21	8640-401-001	Nut, Twin	1	1
22	9451-181-004	Pin , Dowel	1	1
*	9552-037-001	Shim, Door Lock, Thin	AR	AR
*	9552-037-002	Shim, Door Lock, Thick	AR	AR
*	9545-018-004	Screw, Lock mtg	3	3
*	8641-582-007	Lockwasher	3	3
36	9922-011-001	Solenoid Assembly, Door Locking (includes 24 thru 32)		
24	9029-073-002	Bracket, Solenoid	1	1
25a	9536-074-001	Solenoid	1	1
26	9545-008-001	Screw, Solenoid Mtg	4	4
24a	9029-074-001	Bracket, (Assy solonoid slide)	1	1
27	9540-033-001	Stop, Door Lock Solenoid	1	1
28	9545-061-001	Screw, Shoulder	1	1
29	9586-001-001	Thermoactuator	1	1
30	9545-031-004	Screw	2	2
31	9538-157-004	Spacer, Plastic	1	1
31	9538-166-004	Spacer, Metal	1	1
31	9545-010-001	Screw, Cross Recessed	1	1
31	8640-412-005	Nut, Keps #8	1	1
*	8640-411-003	Nut, Keps #6	1	1
32	9545-044-003	Scres #6 (for mounting sol. brkt.)	3	3
*	8640-413-002	Nut, Sol. Brkt. to Control Panel	3	3
*	9497-225-006	Rod, Pull	1	1
33	9545-018-014	Bolts for mounting assembly to tub front	3	3

* Not Illustrated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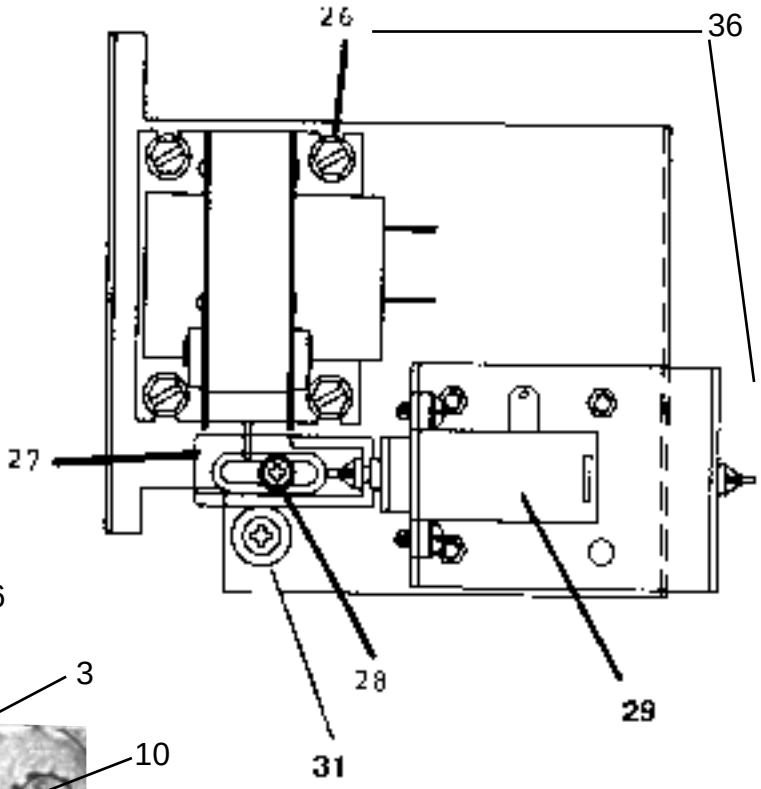
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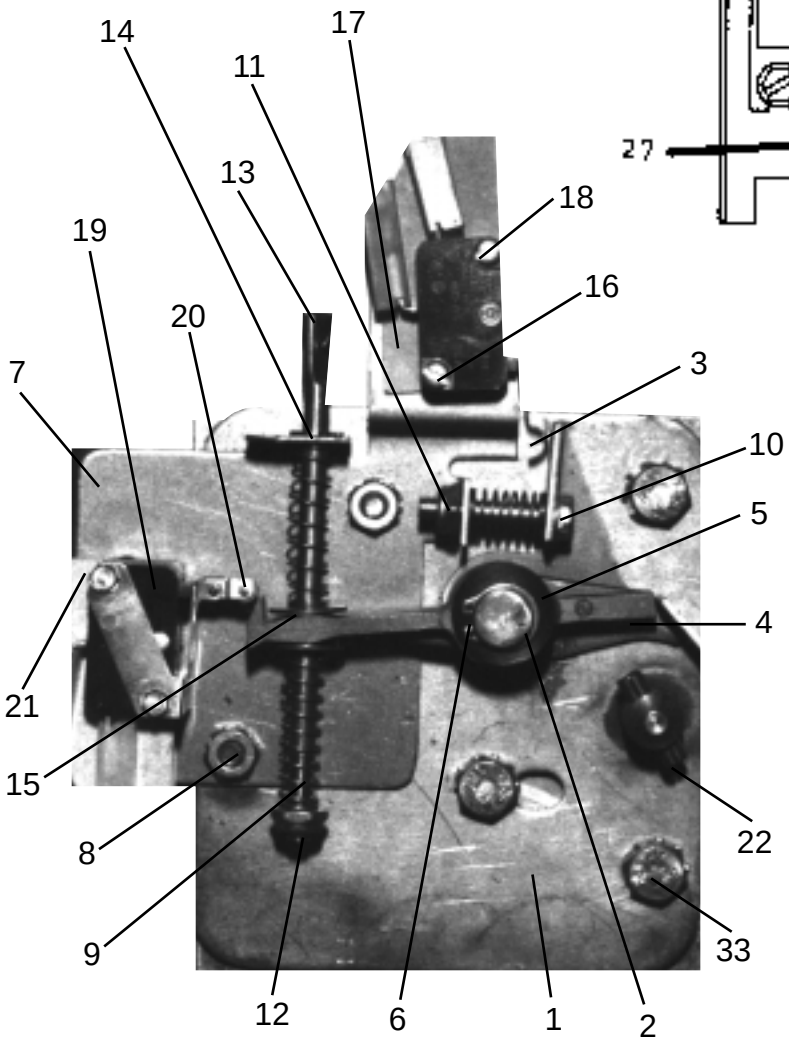
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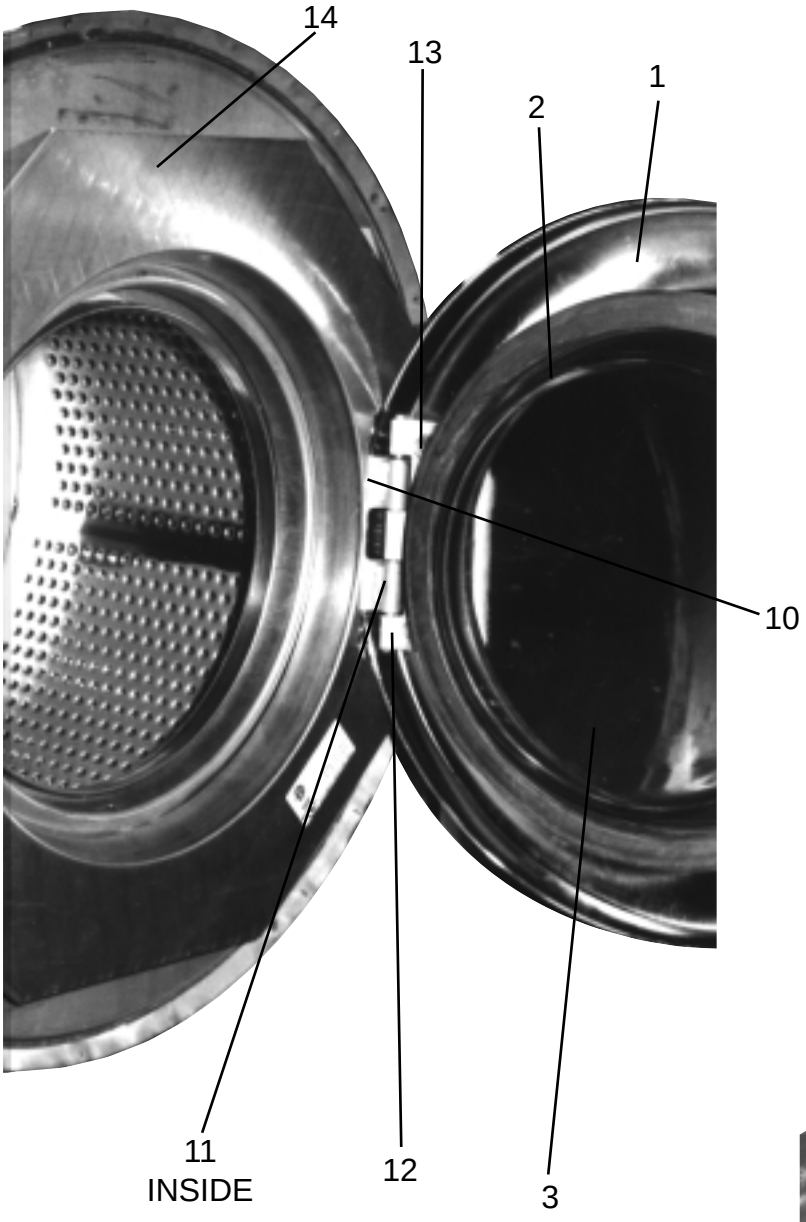
T-400 Loading Door Group

Key	Part Number	Description	MODELS WCN25 A A	MODELS WCN25 A B
*	9960-259-002	Loading Door, Complete (includes #1 thru #10)	1	1
1	9487-230-001	Loading Door, Ring	1	1
2	9206-419-001	Gasket, Loading Door	1	1
3	9635-016-001	Window, Loading Door	1	1
*	9913-134-003	Shaft Assy, Locking (includes #5 thru #8)	1	1
4	9537-195-002	Shaft, Door Locking	1	1
5	9095-040-001	Cam, Locking	1	1
6	9451-181-005	Pin, Groove (1 1/4)	1	1
7	9451-181-004	Pin, Groove (3/4)	1	1
8	9534-360-002	Spring, Lock Cam	1	1
9	9244-080-003	Handle, Door	1	1
*	9451-181-006	Pin, Door Handle (groove)	1	1
10	9955-028-003	Hinge Assy, Loading Door	1	1
*	9545-014-009	Screw, Hinge Mtg	3	3
*	8641-582-009	Lockwasher	3	3
*	9552-036-001	Shim, Loading Door Hinge, Thin	AR	AR
*	9552-036-002	Shim, Loading Door Hinge, Thick	AR	AR
11	9451-184-003	Pin, Loading Door Hinge	1	1
*	8649-031-000	Ring, Retaining	1	1
12	9079-122-001	Clamp, Loading Door Hinge Pin	1	1
13	9545-056-001	Screw, Loading Door Mtg	3	3
14	9487-254-001	Ring, Masking	1	1
*	8640-413-002	Nut	4	4
*	9059-063-001	Band Edge	1	1

* Not Illustrated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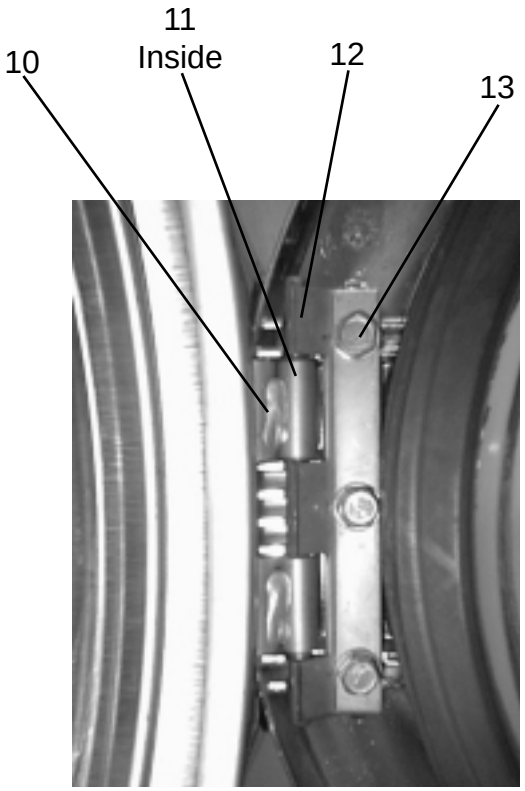
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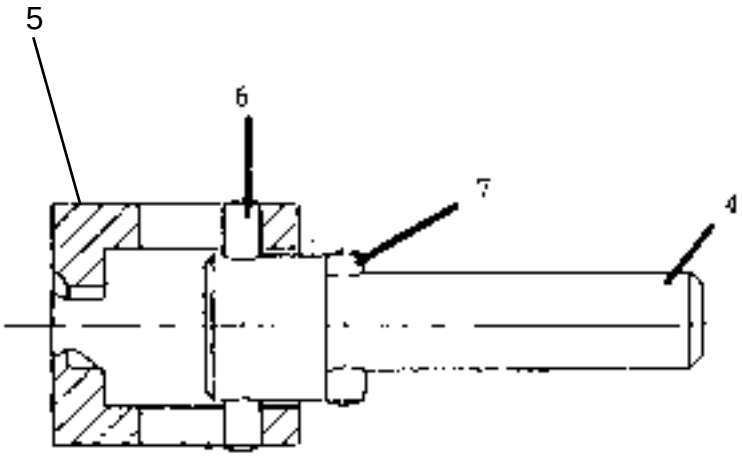
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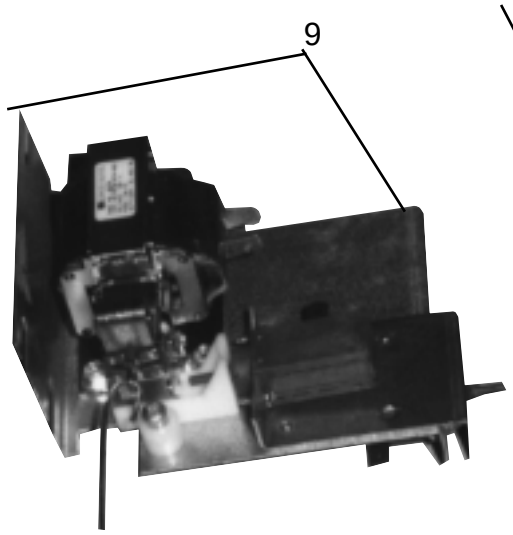
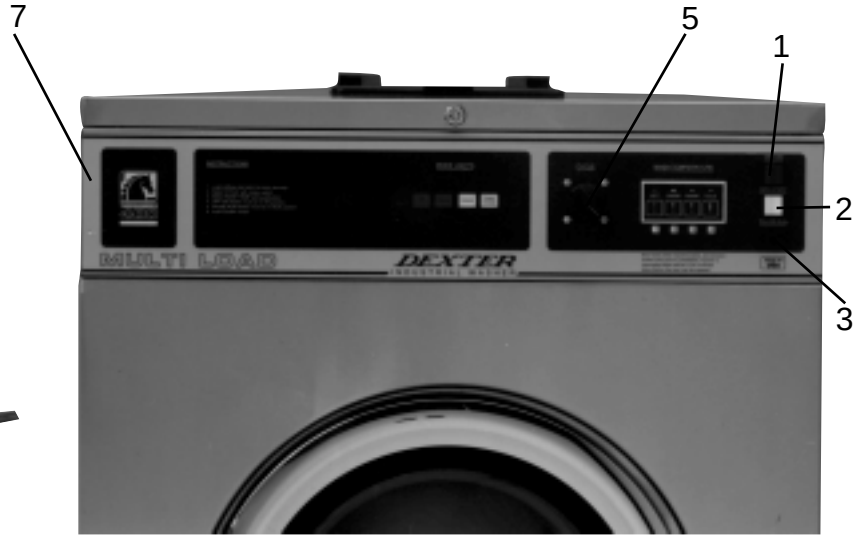
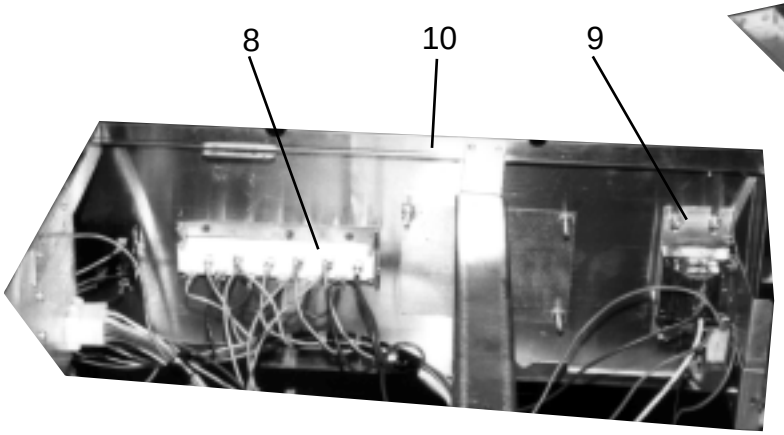
Control Panel Group

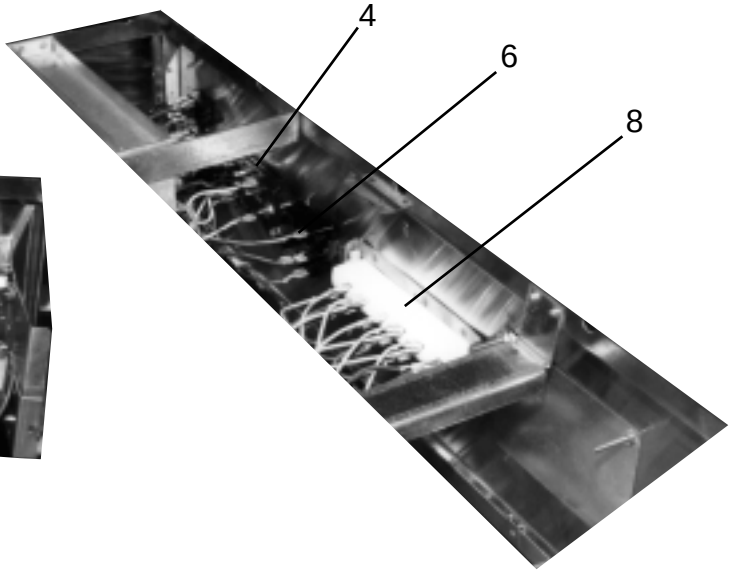
Key	Part Number	Description	MODELS WCN25 AA	MODELS WCN25 AB
1	9539-474-004	Switch, Red--OFF/ON	1	1
2	9539-474-005	Switch, White--ADVANCE/START	1	1
3	9539-474-006	Switch, Blue--PAUSE/RUN	1	1
4	9539-471-001	Switch, Rotary Selector	1	1
6	9539-479-005	Switch, Push-button (cycle selector)	1	1
5	9307-176-001	Knob, Control	1	1
*	9545-044-004	Screw, 6-32 x 1/4"	1	1
7	9412-095-002	Nameplate MULTILOAD	1	1
*	9538-165-001	Spacer	2	2
*	8640-412-003	Nut, Switch mounting	2	2
8	3310-041-001	Light, Cycle Control	1	1
8	9206-100-001	Gasket, Light	2	2
9	9922-011-001	Solonoid Assy (see door lock group)		
10	9989-458-001	Panel Assembly --Control	1	1

* Not Illustrated





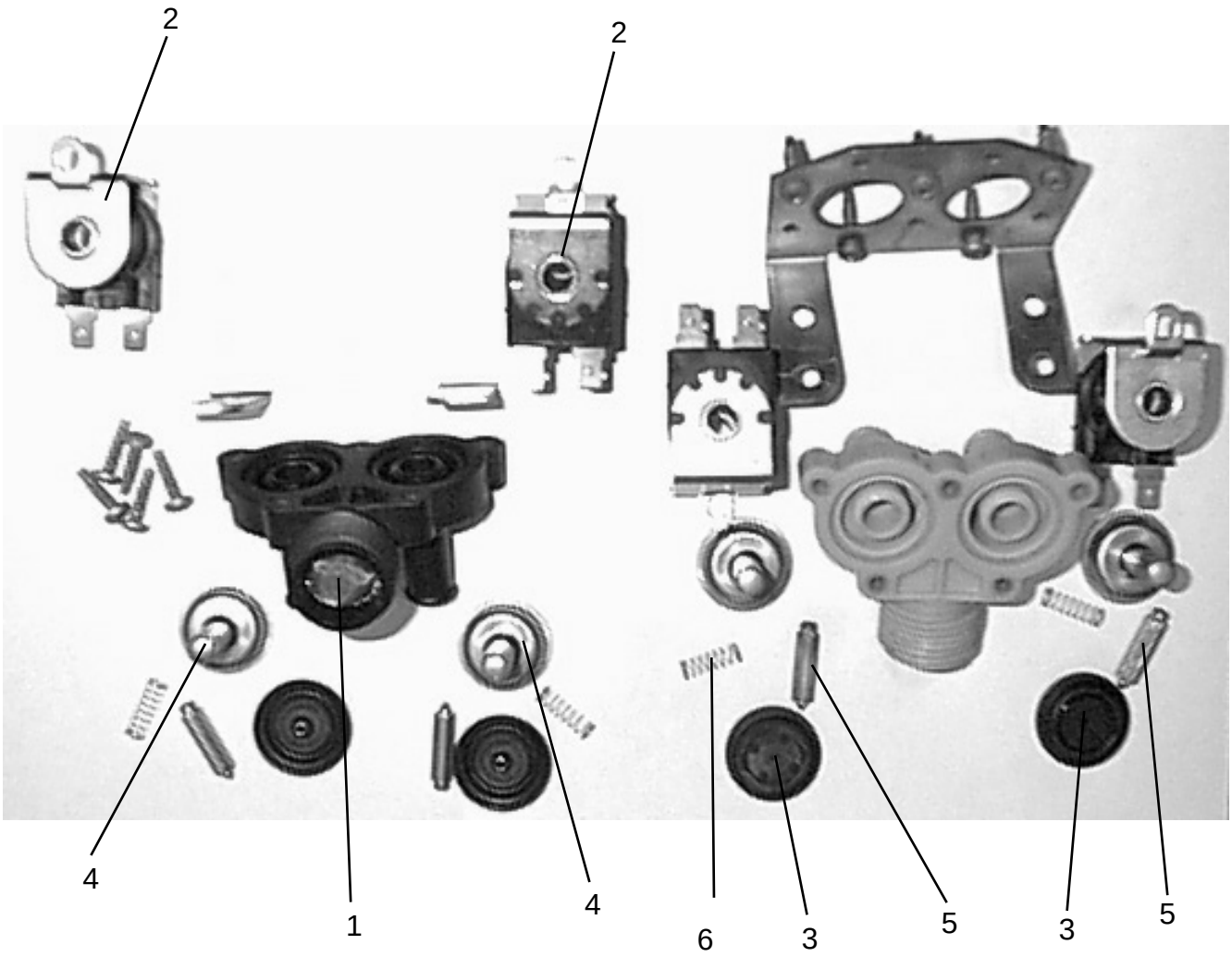




Water Inlet Valve Breakdown

Key	Part Number	Description	MODELS WCN25 A A	A B
*	9379-183-003	Valve, Water Inlet Blue (includes #1 thru #6	1	1
*	9379-183-004	Valve, Water Inlet Black (includes #1 thru #6)	1	1
1	9555-056-001	Screen, Inlet	2	2
2	9089-017-001	Coil Assy., 120 V	2	2
3	9118-049-001	Diaphragm	2	2
*	9118-049-002	Diaphragm (chemical resistant)	optional	
4	9211-021-002	Guide, Solenoid	2	2
5	9015-008-001	Armature	2	2
6	9534-298-001	Spring, Armature	2	2
*	9545-008-026	Screw, Valve Mtg	2	2

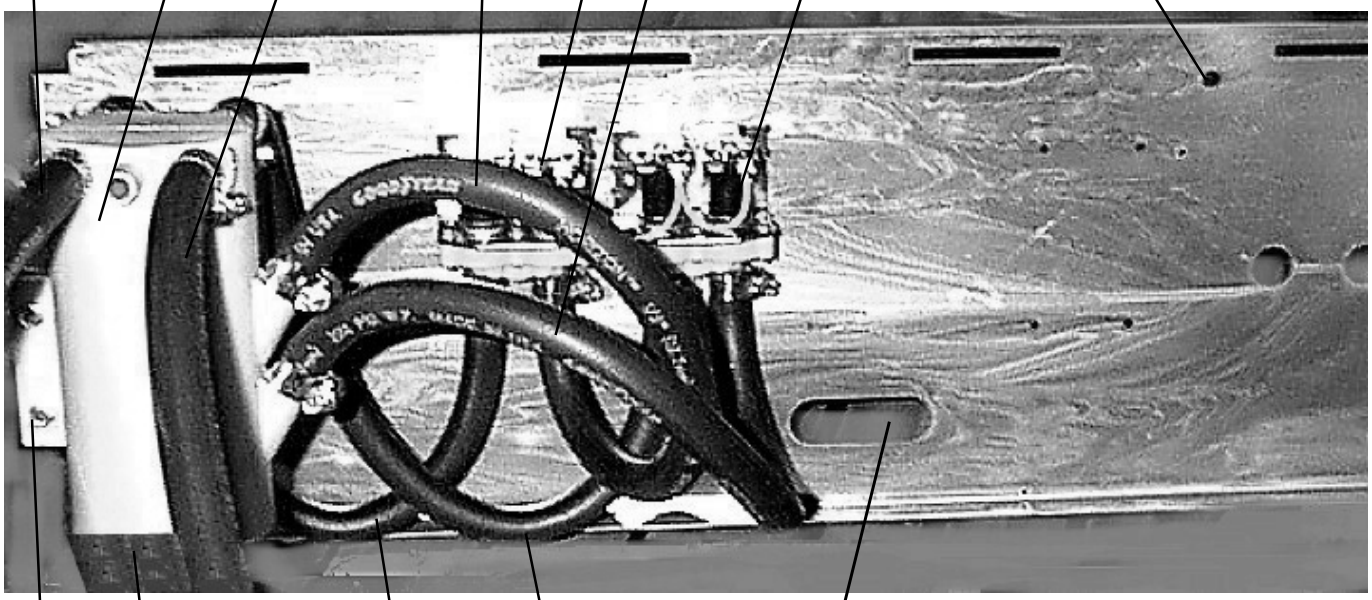
* Not Illustrated



Water Inlet Group

Key	Part Number	Description	MODELS WCN25 AA	MODELS WCN25 AB
1	9379-183-003	Valve, Water Inlet[blue]	1	1
1a	9379-183-004	Vavle, Water Inlet [black]	1	1
*	9475-002-002	Flow Restrictors	2	2
*	9545-008-026	Screw, Valve Mtg	4	4
*	8640-399-009	Nut, Spring	4	4
2	9610-001-001	Vacuum Breaker	1	1
3	9029-078-001	Bracket, Vacuum Breaker	1	1
*	9545-008-026	Screw	4	4
4	9242-461-001	Hose, Vacuum Breaker to Injector	1	1
4a	8654-117-008	Clamp, Vacuum Breaker End	1	1
*	8654-117-008	Clamp, Tub End	1	1
5	9242-453-020	Hose, Hot Valve to Vac. Brkr 18"	1	1
6	9242-453-020	Hose, Hot Valve to Vac. Brkr 18"	1	1
7	9242-453-020	Hose, Cold Valve to Vac. Brkr 18"	1	1
8	9242-453-020	Hose, Cold Valve to Vac. Brkr 18"	1	1
9	9242-453-016	Hose, Vac. Brkr. to Rinse Disp 141/2".	1	1
10	9242-453-017	Hose, Vac. Brkr. to Wash Disp 181/4".	1	1
*	8654-117-009	Clamp, Hose	2	2
*	8654-117-015	Clamp, Hose	13	13
11	9883-006-001	Injector Ass'y P V C	1	1
12	9242-463-002	Hose, Overflow	1	1
*	9242-462-001	Injector To Tub Hose	1	1

* Not Illustrated



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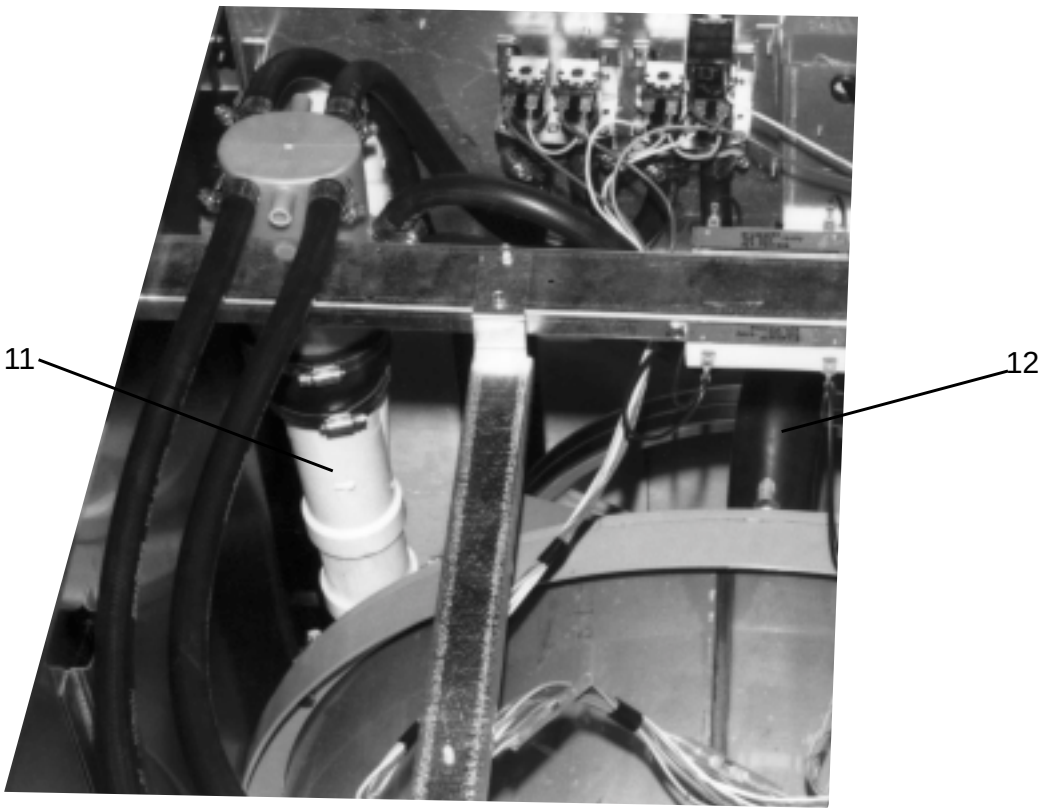
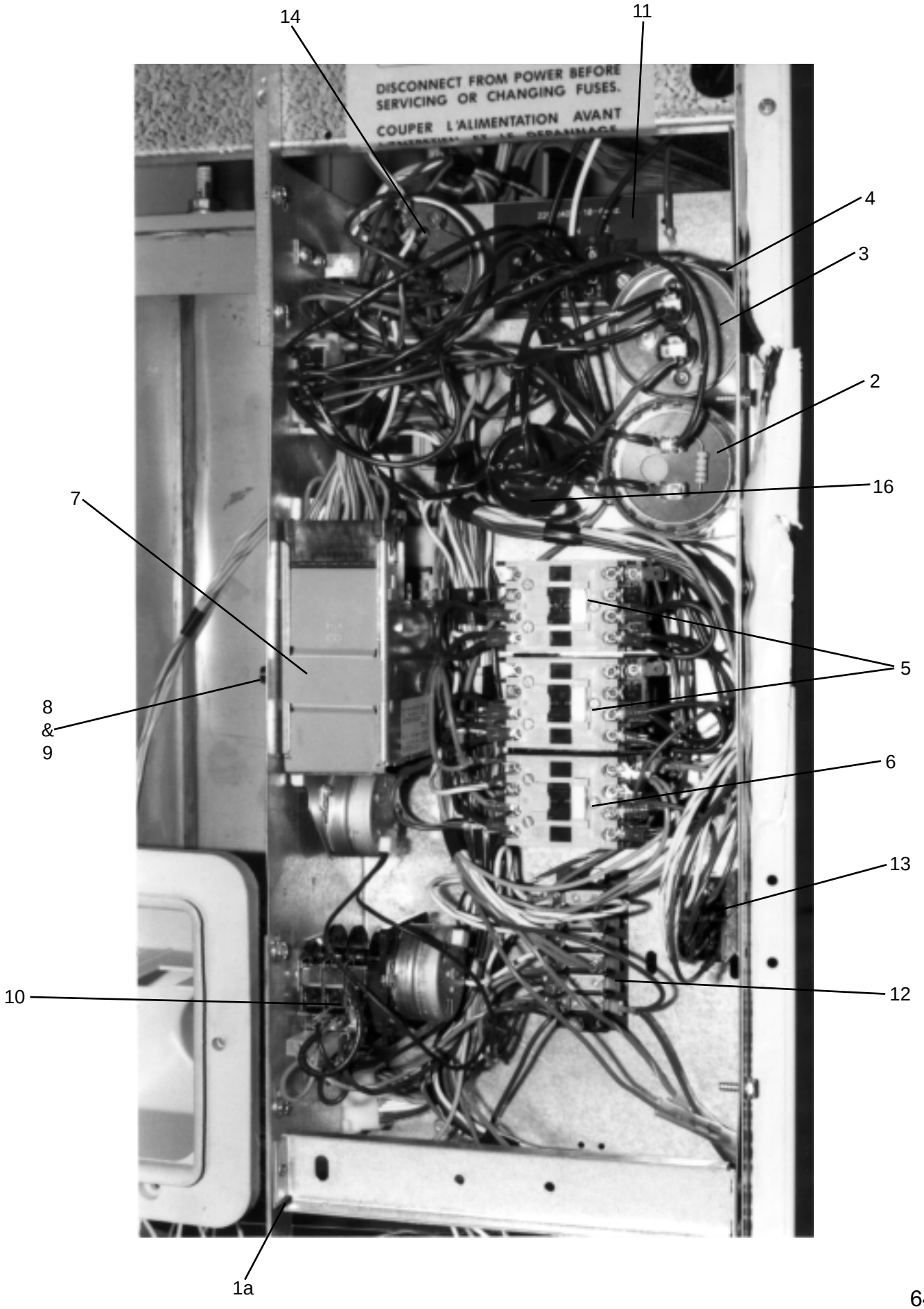


Electrical Components - Top Compartment

Single Phase Only

Key	Part Number	Description	MODELS WCN25 A A	MODELS WCN25 A B
1	9839-012-003	Trough Assy, Controls Mtg	1	
*	9545-008-005	Screw, Trough Sides	2	
*	9029-064-001	Bracket, Trough to Rear Channel	1	
*	9545-008-001	Screw, Trough Bracket	3	
1a	9029-061-001	Front Trough Bracket (control panel to front)	1	
2	5191-102-005	Capacitor, Spin-Start (Century) (plastic)	1	
3	5191-103-010	Capacitor, Run-Tumble (Century) (metal)	1	
4	9544-049-002	Strap, Capacitor Mtg (Century)	1	
*	9545-045-001	Screw, Capacitor Strap	2	
5	5192-286-007	Relay, RUN	2	
6	5192-286-008	Relay, Spin	1	
7	9571-361-004	Timer, Program	1	
(VERIFY PART NUMBER ON TIMER BODY)				
*	9376-295-004	Motor, Timer Main Drive	1	
*	9376-286-004	Motor, Timer Rapid Advance	1	
*	9545-012-001	Screw, Timer Mtg	2	
8	9107-067-001	Dial, Timer	1	
9	9307-176-001	Knob, Timer (w/set screws)	1	
10	9571-360-001	Timer, Reversing	1	
*	9545-044-004	Screw, Reversing Timer	2	
11	9897-033-002	Terminal Block, Power Connection	1	
*	9545-045-007	Screw, Mtg	2	
*	8502-619-003	Label, Fusing	1	
12	9897-034-001	Terminal Block Assy,	1	
*	9545-045-007	Screw, Mtg	2	
*	9558-022-001	Strip, Terminal Marker	1	
13	5192-285-001	Relays	2	
14	9539-489-001	Switch, Pressure	1	
*	9545-045-001	Screw, Mtg	2	
*	5198-211-004	Circuit Breaker, 1.5 amp	1	
*	8652-130-037	Lug, Grounding	1	
*	8639-621-007	Screw, Mtg	1	
*	8641-582-006	Lockwasher	1	
16	9539-478-002	Solid State Start Switch	1	
*	9029-062-001	Strap, Mtg	1	
*	9545-010-001	Screw	1	
	8640-412-005	Nut	1	
	9545-031-003	Screw	1	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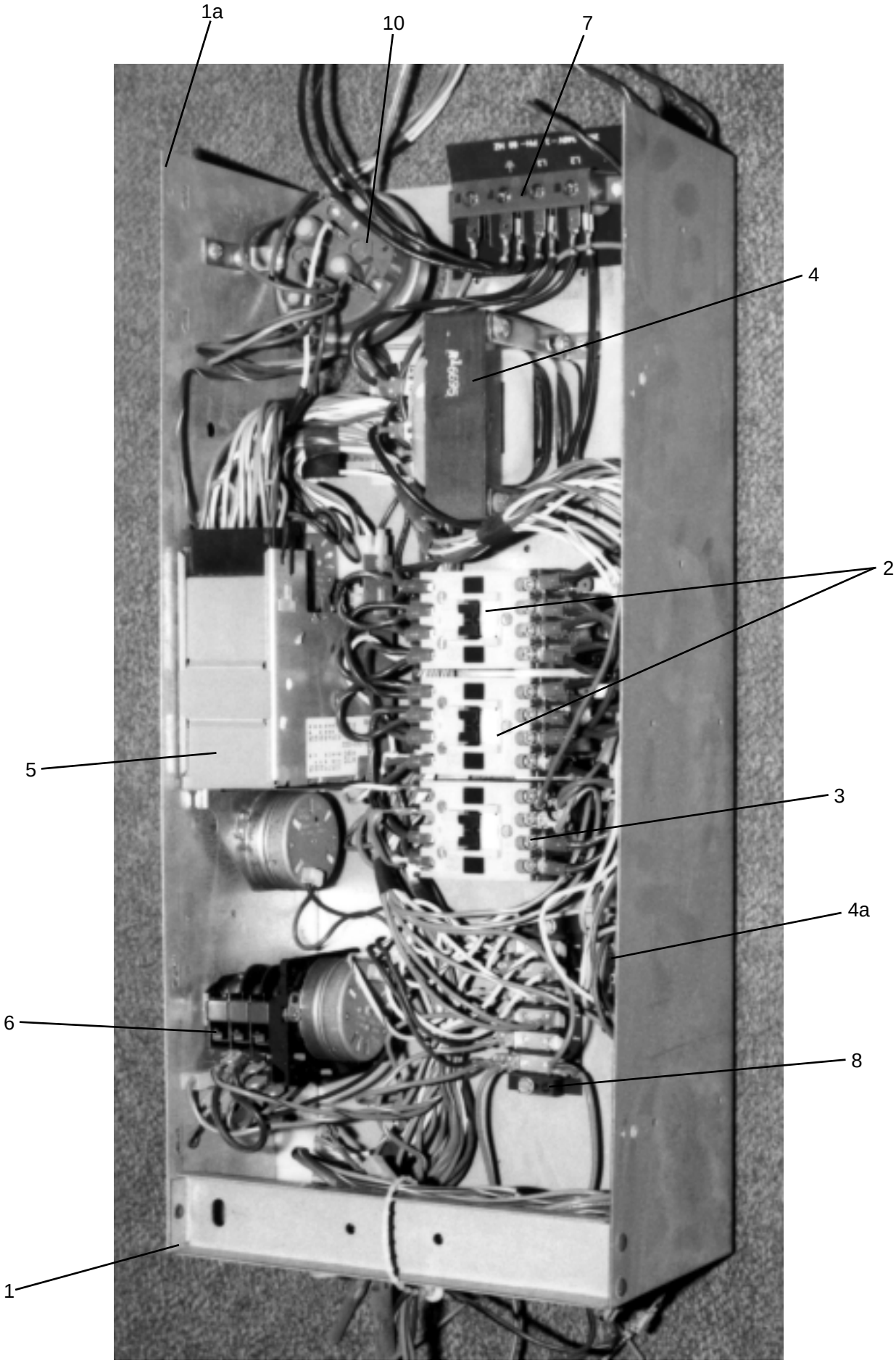
Electrical Components - Top Compartment

Three Phase Only

Key	Part Number	Description	MODELS WCN25 A A	MODELS WCN25 A B
1	9839-012-003	Trough Assy, Controls Mtg		1
*	9545-008-026	Screw, Trough Sides		2
1a	9029-064-001	Bracket, Trough to Rear Channel		1
1b	9029-061-001	Bracket, Trough to Front Channel		1
*	9545-008-026	Screw, Trough Bracket		3
2	5192-286-007	Relay, Tumble		2
3	5192-286-009	Relay, Spin		1
4	8711-004-001	Transformer, Control		1
*	9545-008-026	Screw, Mtg		1
*	8641-582-006	Lockwasher		1
4a	5192-285-001	Relay,small clear		1
*	8653-074-001	Connector		
5	9571-361-004	Timer, Program		1
(VERIFY PART NUMBER ON TIMER BODY)				
*	9376-295-004	Motor, Timer Main Drive		1
*	9376-286-004	Motor, Timer Rapid Advance		1
*	9545-012-001	Screw, Timer Mtg		2
*	9107-067-002	Dial, Timer		1
*	9307-176-001	Knob, Timer (w/set screws)		1
6	9571-360-001	Timer, Reversing		1
*	9545-044-004	Screw, Reversing Timer		2
7	9897-035-002	Terminal Block, Power Connection		1
*	9545-045-007	Screw, Mtg		2
*	8502-619-004	Label, Fusing		1
8	9897-034-001	Terminal Block Assy, 12 Lug		1
*	9545-045-007	Screw, Mtg		2
*	9558-022-001	Strip, Terminal Marker		1
10	9539-489-001	Switch, Pressure		1
*	9545-045-001	Screw, Mtg		2
*	5198-211-004	Circuit Breaker, 1.5 amp		1
*	8652-130-037	Lug, Grounding		1
*	8639-621-007	Screw, Mtg		1
*	8641-582-006	Lockwasher		1

* Not Illustrated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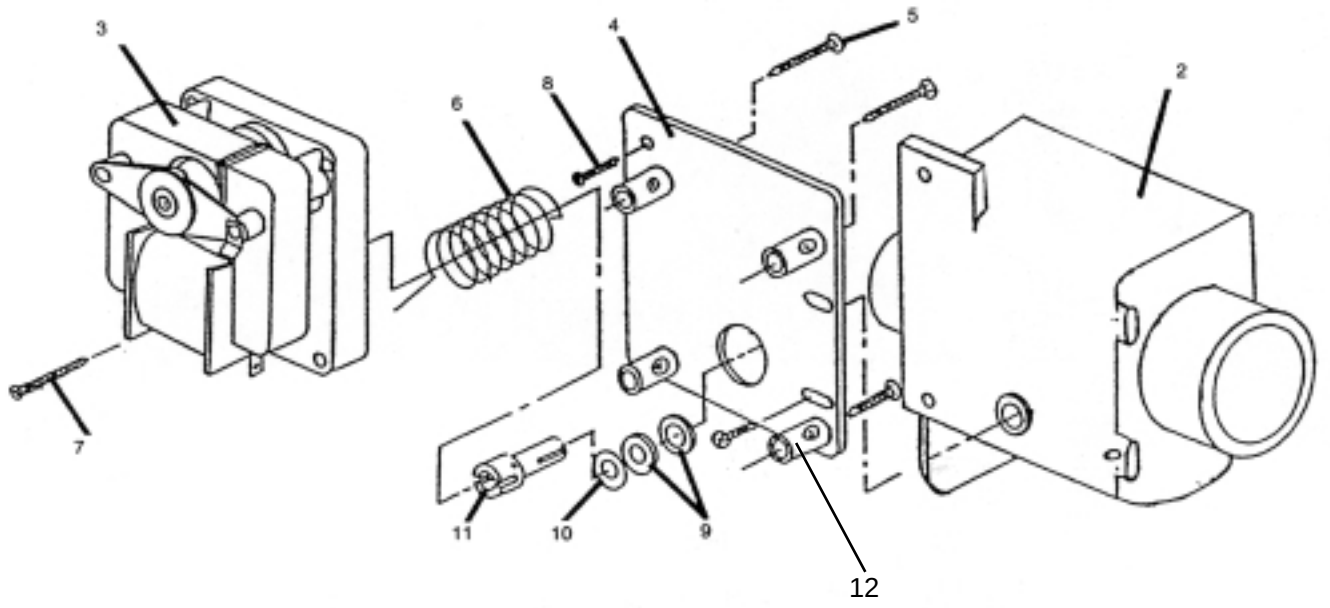
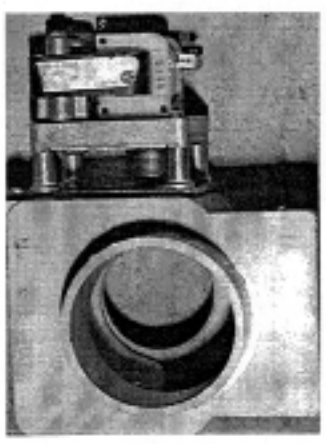
Drain Valve Group

Key	Part Number	Description	MODELS WCN25 A A	A B
	9379-187-001	Valve, Drain (includes #2 thru #11)	1	1
2	9064-070-001	Body, Valve (w/ball)	1	1
3	9914-137-001	Motor & Gear Train	1	1
4	9452-538-001	Plate, Motor Mtg	1	1
5	8639-994-001	Screw	3	3
6	9534-339-001	Spring, Drive	1	1
7	9545-054-001	Screw	2	2
8	9545-054-002	Screw	1	1
9	9532-134-001	Seal, V Packer	2	2
10	8641-584-001	Washer	1	1
11	9451-196-001	Pin, Main Drive	1	1
12	9538-149-001	Spacer,Plate Motor Mtg.	4	4





TERMINAL BLOCKS

Key	Part Number	Description	MODELS WCN25 AA	MODELS WCN25 AB
	9897-035-001	Terminal Block 4 pole 1 ph	1	
	9558-029-002	Strip Marker	1	
	9897-033-002	Terminal Block Power	1	1
	9558-025-001	Strip Marker	1	1
	9545-045-007	Screw	2	2
	9897-035-002	Terminal Block 4 Pole		1
	9558-029-001	Strip Marker		1
	9897-032-002	Terminal Block Injector	1	1
	9556-028-001	Strip Maker	1	1
	9545-053-002	Screw	1	1
	9857-034-001	Terminal Block Power	1	1
	9558-027-001	Strip Marker	1	1
	8652-134-001	Terminal Lug, Ground	1	1
	8639-621-007	Screw	1	1
	8641-582-006	Lockwasher	1	1
	8652-130-037	Terminal Grounding	1	1
	8639-621-007	Screw	1	1
	8641-582-006	Lockwasher	1	1

Labels

Key	Part Number	Description	MODELS WCN25 AA	MODELS WCN25 AB
	9345-783-002	Label Maintimer(chart)	1	1
	9345-794-002	Wiring Label-Schematic	1	1
	9345-796-004	Wiring Label-Diagram	1	
	8502-624-002	Label Warning Door Opening	1	1
	8502-614-004	Label High Voltage	1	1
	8502-647-001	Label Connections Injector	1	1
	8502-666-001	Label Injector Assembly	1	1
	8502-649-001	Label Connections Electrical	1	1
	8502-619-003	Label Fusing & Installation	1	1
	9345-795-003	Wiring Diagram 3 ph		1

Wiring Harness Group

Key	Part Number	Description	MODELS WCN25 AA	MODELS WCN25 AB
USE FOLLOWING TWO ITEMS WITH TIMER PART NUMBER 9571-359-002				
	9627-680-002	Wiring Harness, Main	1	1
	9627-681-003	Wiring Harness, Control	1	1
USE FOLLOWING TWO ITEMS WITH TIMER PART NUMBER 9571-361-002				
	9627-702-003	Wiring Harnss, Main	1	1
	9627-694-001	Wiring Harness, Control	1	1
	9627-691-001	Wiring Harness, Injector Control	1	1
	9627-683-001	Wiring Harness, Drain Valve	1	1
	8654-125-0012	Clamp, Cable- 1/4" Diameter	1	1

Section 7

Parts Data

Thoroughbred 600

Accessories

Models **WCN40AADX** **220-240 volts 60hz. Single Phase**
WCN40ABDX **208-240 volts 60hz. Three Phase**

Part Number	Description	MODELS WCN40 AA	MODELS WCN40 AB
9990-027-013	Hose, Water Supply (furnished) 5/8" I D x 48"	2	2
8641-242-000	Washer, Inlet Hose (furnished)	2	2
9565-003-001	Strainer, Inlet Hose (furnished)	2	2
9732-139-002	Kit, Door Gasket Expander (large)	1	1
9732-139-001	Kit, Door Gasket Expander (small)	1	1
Grip-O-Matic #1045	Puller, Bearing Housing (available through Standard Bearing Company		
9990-027-013	Hose , Water supply 1/2" I.D. x 48" (optional)	2	2
9242-417-001	Drain Hose 10 ft length x 2-1/4" I.D. (optional)		
9242-417-003	Drain Hose 10 ft length x 3" I.D. (optional)		
8641-586-002	Bevel Washer for 5/8" bolt used in installations using angle iron bases		
8641-586-003	Bevel Washer for 3/4" bolt used in installations using angle iron bases		
9732-141-001	Manual Operation Kit		
9539-474-001	Switch, Blk/Red (included in kit)	1	1
9539-474-002	Switch, Blk/Wht (included in kit)	1	1
8545-051-003	T-10 Torx for removing coin acceptor mounting screws		
8545-055-002	Electrical Probe 100-600 VAC		
8545-055-001	Electrical Probe 24-90 VAC		
8538-151-001	Sealing Compound		

Cabinet and Front Panel Group

Key	Part Number	Description	MODELS WCN40 A A	A B
1	9989-449-001	Panel, Side (Left or Right)- Stainless	2	2
1a	9545-018-013	Screw, (Side Panel to Base)	8	8
*	8640-414-006	Nut	8	8
*	9029-066-001	Bracket, Side Panel	1	1
*	8640-413-002	Nut, Hex #10	2	2
*	9545-008-026	Screw, #10	2	2
2	9454-669-003	Panel Assy, Front	1	1
2a	9059-063-002	Band, Edge Protector	1	1
*	8640-399-005	Nut, Spring- To Control Panel	2	2
*	9545-008-006	Screw, Hex- To Control Panel	2	2
3	9545-008-014	Screw, Flat Head	2	2
3	8641-585-001	Washer, Finish	2	2
3	8640-399-008	Nut, Spring	2	2
3	9545-008-023	Screw, Fillister Head Guide	2	2
4	8502-624-002	Label, Door Opening	1	1
5	9108-097-001	Door, Lower Service	1	1
6	9545-008-014	Screw, Flat Head	2	2
6	8641-585-001	Washer, Finish	2	2
6	8640-399-008	Nut, Spring	2	2
*	9545-008-023	Screw, Fillister Head Guide	2	2
7	9412-096-002	Nameplate, Control Panel, Maxi Load	1	1
8	9989-459-001	Control Panel (mounts nameplate)	1	1
*	9545-008-026	Screw Control panel mounting	4	4
9	9454-664-001	Panel, Top	1	1
10	8650-012-003	Lock, Top (w/Key)	1	1
*	9306-025-001	Key, Top-#6324	1	1
*	9095-038-001	Cam, Lock Top	1	1
*	8640-426-001	Nut, 9/32	1	1
*	8641-581-008	Washer	1	1
*	9086-017-001	Catch, Top Panel	2	2
*	9467-024-001	Post, Top Locator	2	2
*	8640-411-003	Nut, Keps	2	2
*	9355-001-001	Locator, Panel	2	2
*	9545-008-025	Screw, #10	2	2
11	9244-081-002	Handle (bumper guard)	1	1
*	9545-045-010	Screw, handle mounting	4	4
12	9108-095-003	Door dispenser	1	1
*	9545-008-012	Screw, Dispenser mounting	4	4
*	8640-399-007	Nut, Keps	4	4
*	9545-045-002	Screw, Dispenser post mounting	4	4
13	9467-025-001	Post , door mounting	2	2
	9451-191-001	Pin, plain	2	2

* Not Illustrated

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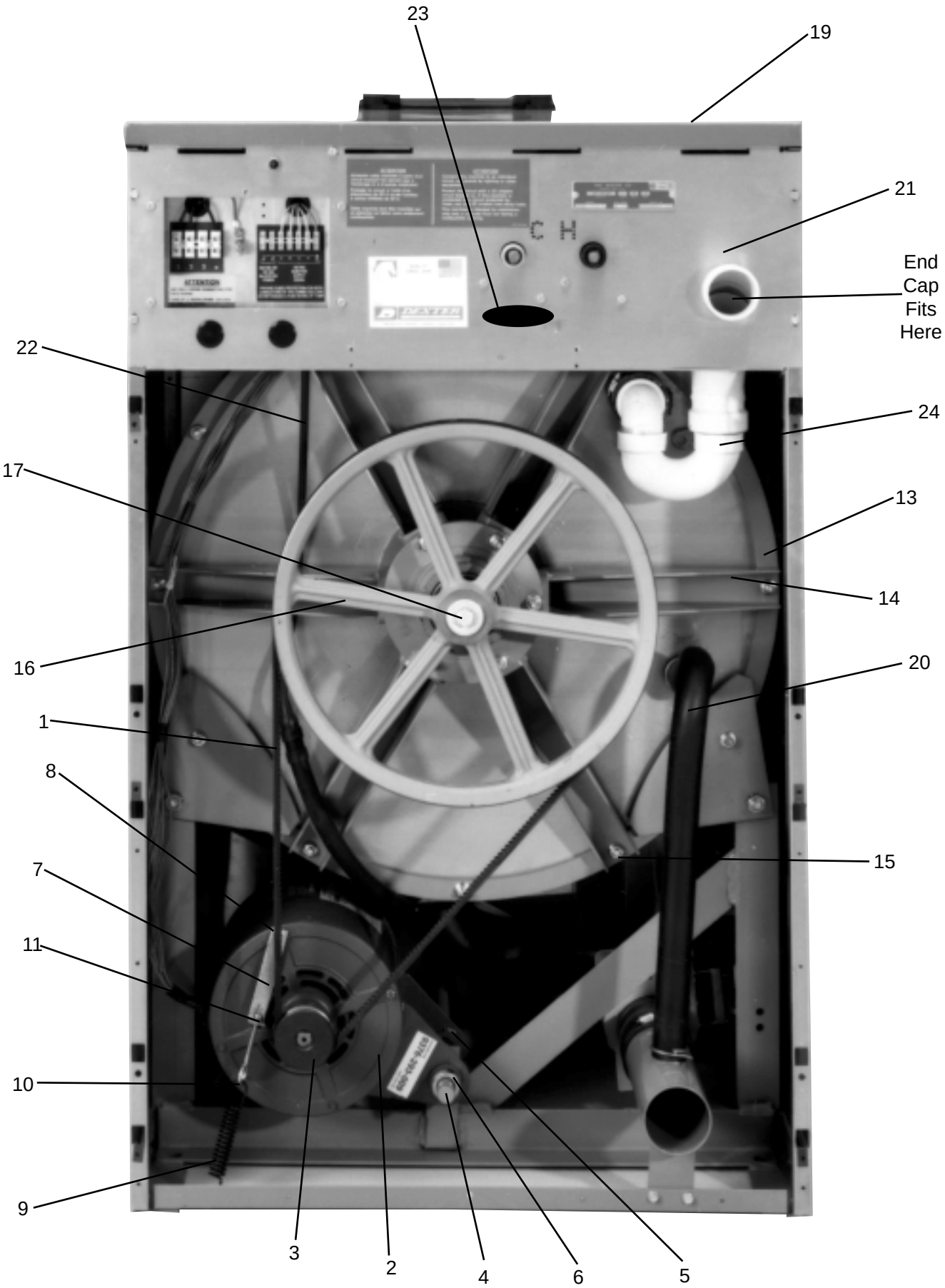
REAR VIEW

Key	Part Number	Description	MODELS WCN40 AA	MODELS WCN40 AB
1	9040-076-005	Drive Belt	2	2
2	9732-127-005	Drive Motor, 1 Phase	1	
2	9732-127-006	Drive Motor, 3 Phase		1
3	9453-170-002	Pulley, Motor	1	1
*	9545-028-015	Screw, set	2	2
4	9497-222-004	Rod, Motor Mtg	1	1
5	9545-029-005	Screw	1	1
5	8641-582-014	Lockwasher	1	1
6	9076-052-002	Collar, Shaft (w/set screws)	3	3
*	9053-074-001	Nyon Bushing (For Magna-Tek Brand Motors)	2	2
7	9029-027-003	Strap, Motor tension	1	1
8	8640-413-002	Nut, Strap to Motor	1	1
8	8641-581-006	Washer	1	1
9	9534-319-002	Spring, Belt Tension	1	1
10	9545-055-001	Bolt, Eye	1	1
11	8640-414-003	Nut, 1/4-20 Elastic Stop	1	1
13	9950-041-004	Ring Assy., Tub Mtg.- Rear	1	1
14	9991-051-002	Support Assy., Bearing Hsg	6	6
15	9545-059-002	Screw, 2"- Tub Back to Tub	12	12
*	8640-416-005	Nut, Flange Lock	12	12
*	9552-038-003	Shim	AR	AR
16	9453-168-003	Pulley, Driven	1	1
17	9545-060-001	Screw, Pulley to Shaft	1	1
17	8641-581-032	Washer, Flat	2	2
17	8641-582-018	Lockwasher	1	1
21	9081-116-001	Channel, Rear	1	1
*	9545-008-026	Screw	4	4
*	8640-399-004	Nut, Spring	4	4
*	9454-655-001	Panel, Back Guard	1	1
19	9454-664-001	Panel, Top	1	1
20	9242-449-002	Hose, Overflow	1	1
*	8654-029-000	Clamp, Hose	2	2
*	9989-446-001	Panel Assy., Back	1	1
*	9545-008-026	Screw	10	10
*	8640-399-004	Nut, Spring	10	10
22	9242-175-002	Hose, Pressure Switch	1	1
*	8654-117-015	Clamp, Pressure Sw. Hose	1	1
23	9242-463-003	Overflow Vent Hose 12’ 1/4”	1	1
24	9883-007-001	Injector Assebly PVC	1	1
*	0935-127-001	End Cap (For Chemical Injection Hose Insertion	1	1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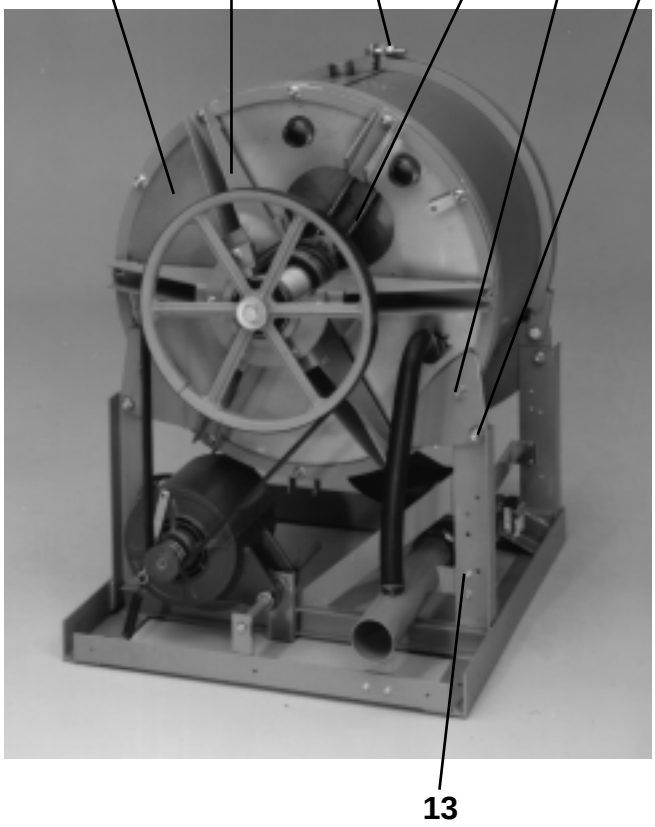
CHASIS AND DRAIN GROUP

Key	Part Number	Description	MODELS WCN40 AAA	AAB
1	9945-097-002	Base Assy, Frame	1	1
2	9930-136-001	Tub Assy	1	1
3	9967-009-002	Cradle Assy, Tub	1	1
4	9950-050-002	Ring Assy, Tub Mtg-Front	2	2
5	9545-060-003	Screw, 5/8-3x 1	1	1
5	8640-425-011	Nut	1	1
5	8641-582-018	Lockwasher	1	1
6	9950-041-004	Ring Assy., Tub Mtg.- Rear	1	1
7	9545-060-002	Bolt, 5/8-11x1 1/2 Rings to Base (front & rear)	4	4
8	9545-060-001	Bolt, 5/8-11x2 1/2 Rings to Base (front ring to cradle)	2	2
*	8641-582-018	Lockwasher	4	4
*	8640-425-001	Nut, Hex	4	4
9	9379-187-001	Valve, Drain	1	1
11	9029-052-001	Bracket, Drain Valve	1	1
*	9545-048-001	Screw, Valve to Bracket	1	1
*	8641-581-018	Washer	1	1
*	9545-030-002	Screw, Bracket to Base	2	2
12	9915-118-002	Tube Assy, Drain	1	1
*	9545-030-002	Screw, Tube Mtg	2	2
14	9242-456-001	Hose, Tub to Drain Valve	1	1
15	9242-457-001	Hose, Drain Valve to Tube	1	1
16	8654-117-014	Clamp, Hose	4	4
17	9732-137-003	Back Assy Tub	1	
18	9991-051-002	Support Arm Assembly	6	6
*	9497-222-004	Rod, Motor Mtg	1	1
*	9076-052-002	Collar, Shaft	2	2
*	9545-029-005	Screw, Motor Mtg Rod	1	1
*	8641-582-014	Lockwasher	1	1
19	9545-059-002	Bolt 7/16” x 2” Tub Back to Tub	12	12
*	9453-170-002	Pulley, Motor	1	1
*	9545-028-015	Set Screw, Square Head	2	2
*	8640-416-005	Nut, Flange Lock	12	12
25	9040-076-005	Belt, Drive	2	2
20	9610-001-001	Vaccum Breaker	1	1
*	9552-038-001	Shim, Support Assembly	AR	AR
*	9081-116-001	Channel, Rear	1	1
*	0935-127-001	End Cap for liquid chemical injections	1	1
21	9732-105-004	Dispenser,	1	1
22	9206-416-001	Gasket, Dispenser	1	1
24	9242-450-001	Hose, Dispenser to Tub	1	1
23	8654-117-008	Clamp, Dispenser Hose	2	2

* Not Illustrated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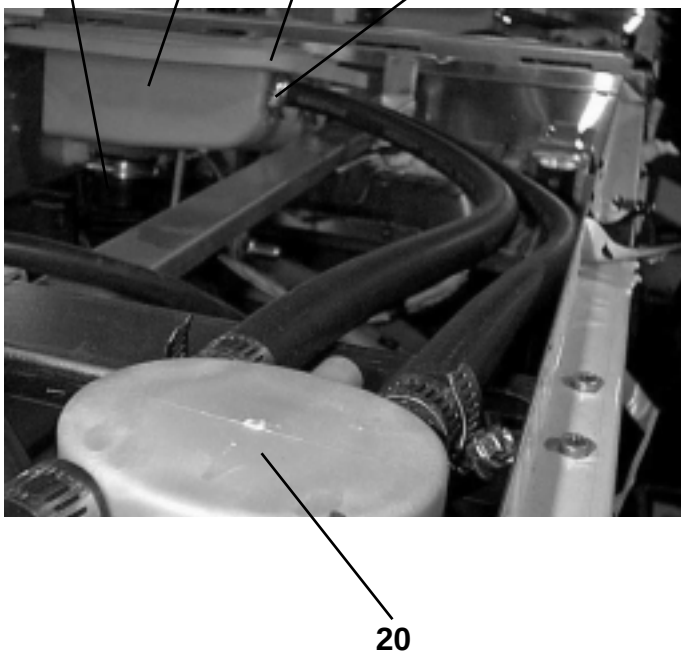
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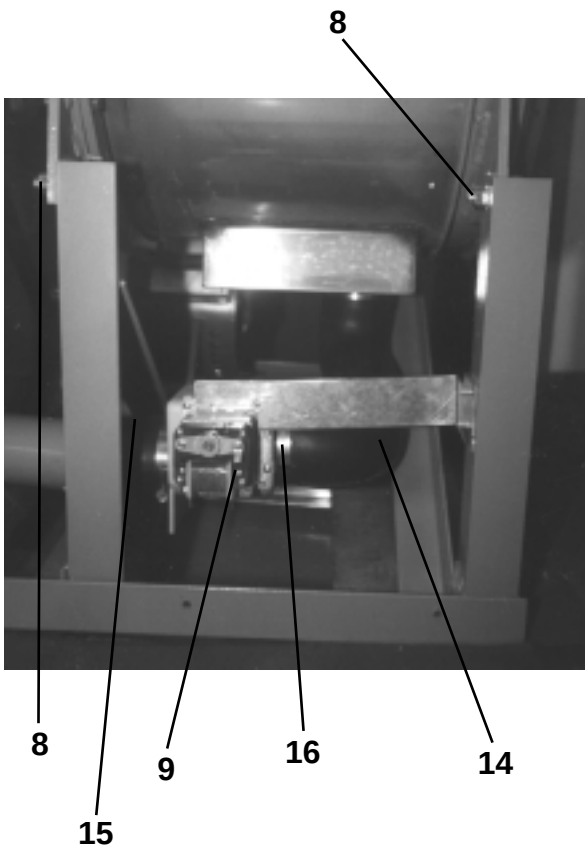
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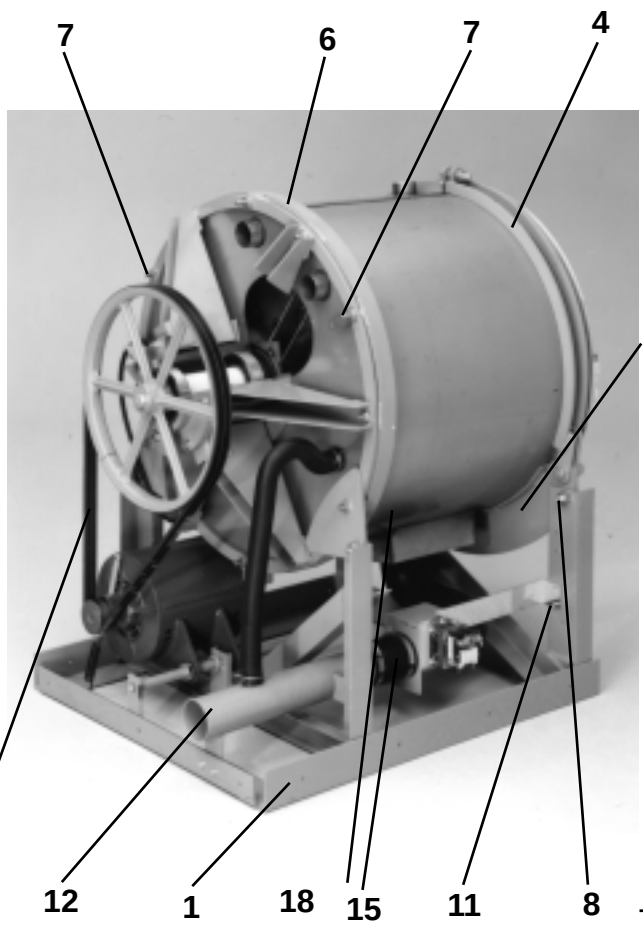
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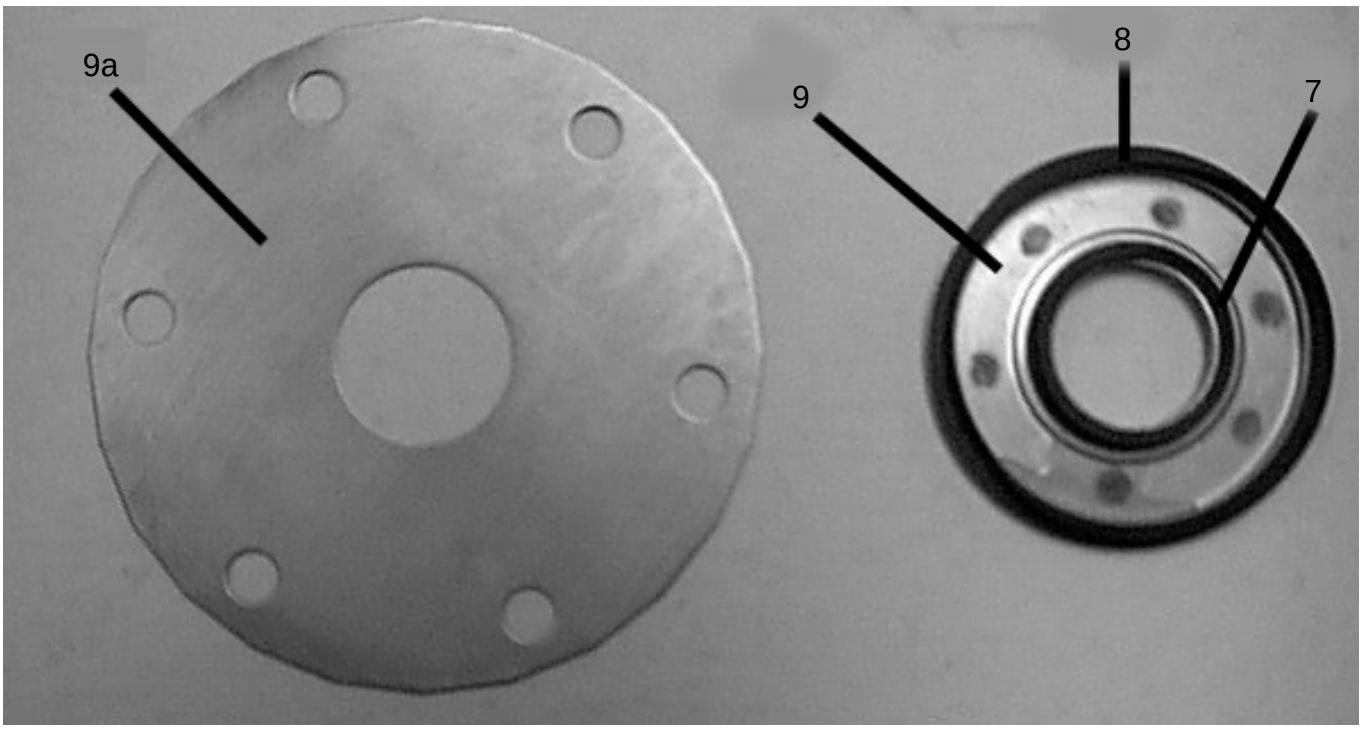
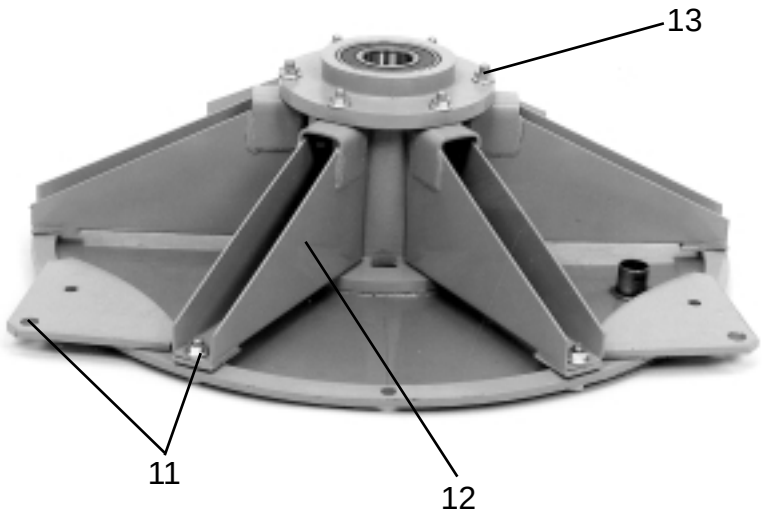
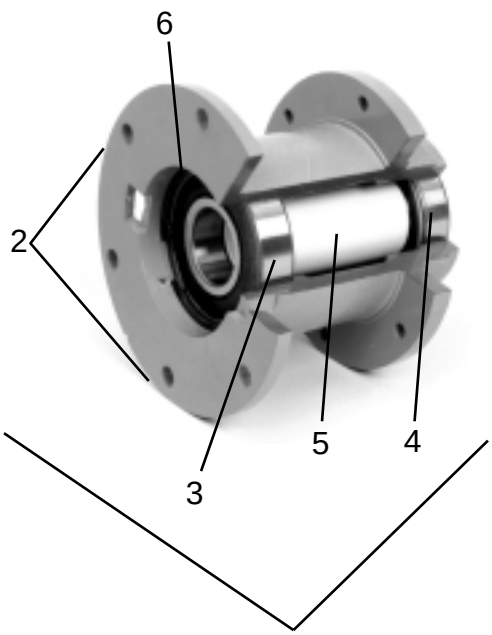
BEARING HOUSING, WATER SEALS AND PULLEY GROUP

Key	Part Number	Description	MODELS WCN40 A A	MODELS WCN40 A B
1	9848-113-001	Cylinder, Assy	1	1
*	9456-041-007	Plug plastic inside cylinder	1	1
*	9803-186-001	Housing, Bearing- Assembly (includes items #2-#6)	1	1
2	9241-180-002	Housing, Bearing	1	1
3	9036-159-005	Bearing, Front	1	1
4	9036-159-004	Bearing, Rear	1	1
5	9538-167-001	Spacer, Bearing	1	1
6	9487-238-003	Ring, Bearing Retainer	1	1
7	9532-140-006	Seal, Secondary	1	1
8	9532-140-009	Seal, Primary	1	1
9	9950-042-001	Ring, Seal Mtg	1	1
9a	9487-261-002	Ring Seal Tub Back Mating Ring (between tub & bearing housing)	1	1
*	9732-137-003	Back Assy, Tub	1	1
11	9545-060-001	Screw, 5/8 x 1 1/2 Gr. 5	6	6
11	8640-425-001	Nut	6	6
11	8641-582-018	Lockwasher	6	6
12	9991-051-002	Support Assy., Bearing Housing	6	6
13	9545-059-003	Screw, 7/16 x 1 1/2 Gr 8	6	6
13	8640-416-005	Nut	6	6
14	9453-168-003	Pulley, Driven	1	1
15	9487-234-003	Ring, Tolerance	1	1
16	8641-581-032	Washer	1	1
17	9545-060-001	Screw	1	1
18	8641-582-018	Lockwasher	1	1

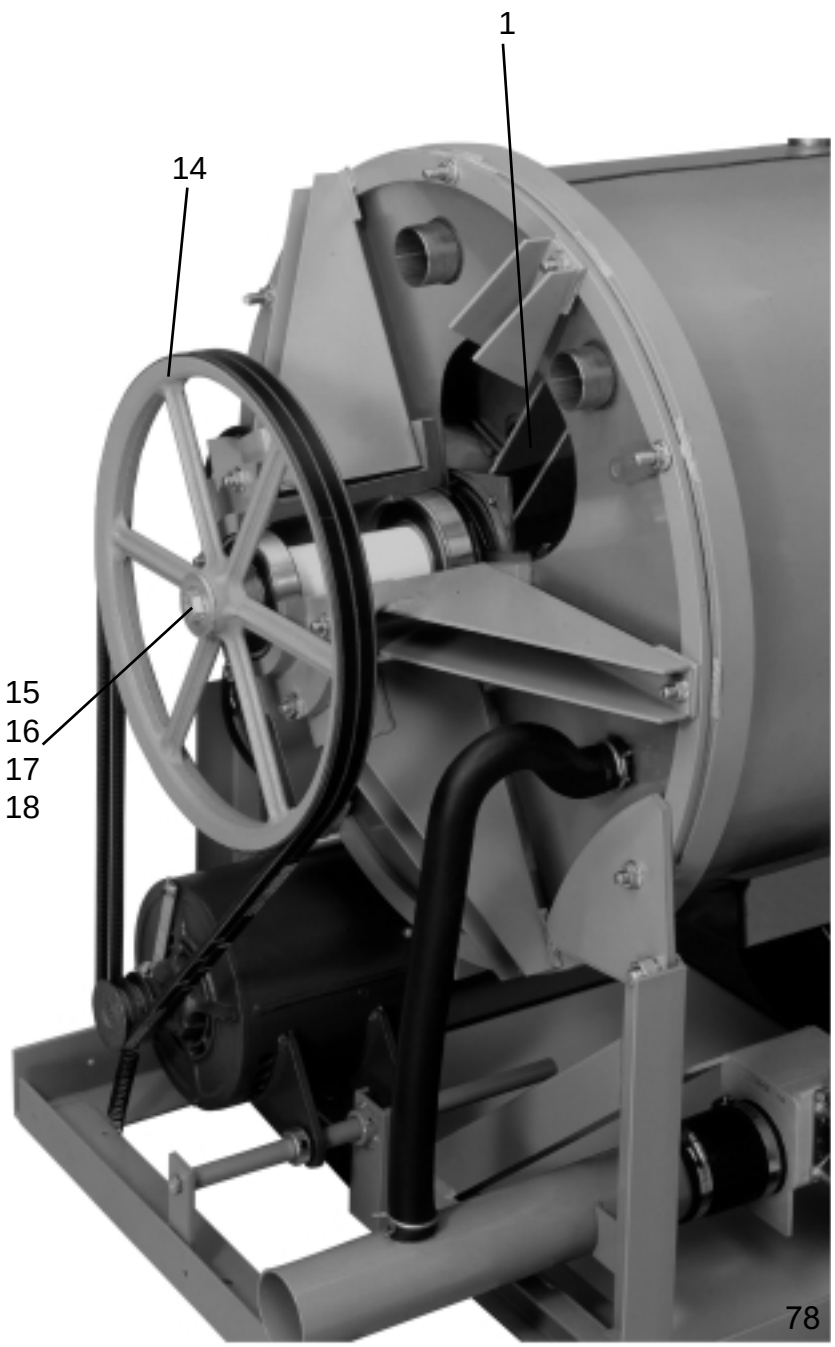
* Not Illustrated







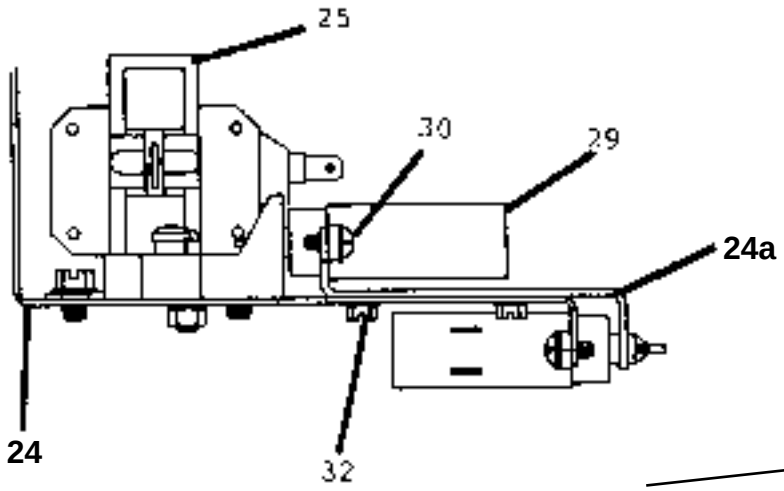
Housing Assembly



DOOR LOCK GROUP

Key	Part Number	Description	MODELS WCN40 AA	MODELS WCN40 AB
*	9885-023-001	Lock Assy, Complete (includes #1 thru #23)	1	1
1	9982-284-001	Plate Assy, Door Lock	1	1
2	8641-581-030	Washer, Flat	1	1
3	9008-005-001	Actuator, Latching Switch	1	1
4	9450-002-002	Pawl, Locking	1	1
5	8641-569-003	Washer, Spring	1	1
6	9487-200-004	Ring, Retaining	1	1
7	9029-035-001	Bracket, Switch	1	1
8	8640-413-002	Nut, Hex	2	2
9	9534-364-002	Spring, Actuating	1	1
10	9545-012-020	Screw, Hx	1	1
11	8640-413-004	Nut, Elastic Stop	2	2
12	9534-364-001	Spring, Return	2	2
13	9451-193-001	Pin, Guide	1	1
14	9487-200-005	Ring, Retaining	1	1
15	8641-581-031	Washer	2	2
16	9539-461-008	Switch, Latching Sensing	1	1
17	9550-169-003	Shield, Switch	3	3
18	9545-020-001	Screw	2	2
18	8640-401-001	Nut, Twin	2	2
19	9539-461-007	Switch, Locking Sensing	2	2
20	9008-006-002	Actuator, Switch	2	2
21	9545-020-003	Screw	2	2
21	8640-401-001	Nut, Twin	1	1
22	9451-181-004	Pin, Dowel	1	1
*	9552-037-001	Shim, Door Lock, Thin	AR	AR
*	9552-037-002	Shim, Door Lock, Thick	AR	AR
*	9545-018-004	Screw, Lock mtg1/4-20x3/4	3	3
*	8641-582-007	Lockwasher	3	3
36	9922-011-001	Solenoid Ass'y Door Locking (includes 24 thru 34)	1	1
24	9029-073-001	Bracket, Solenoid	1	1
24a	9029-074-001	Bracket, ass'y solenoid slide	1	1
25	9536-074-001	Solenoid	1	1
26	9545-008-001	Screw, Solenoid Mtg	4	4
27	9540-033-002	Stop, Door Lock Solenoid	1	1
28	9545-061-001	Screw, Shoulder	1	1
29	9586-001-001	Thermoactuator	2	2
30	9545-031-004	Screw	4	4
31	9538-157-004	Spacer, Plastic	1	1
31	9538-166-004	Spacer, Metal	1	1
31	9545-010-001	Screw, Cross Recessed	1	1
31	8640-412-005	Nut, Keps #8	1	1
*	8640-411-003	Nut, Keps #6	2	2
*	8640-413-002	Nut, Sol. Brkt to Control Panel	1	1
32	9545-044-003	Screws # 6(for mounting to sol. brkt.)	3	3
*	9497-225-006	Rod, Pull	1	1
33	9545-018-014	Bolts for mounting assembly to tub front	3	3

* Not Illustrated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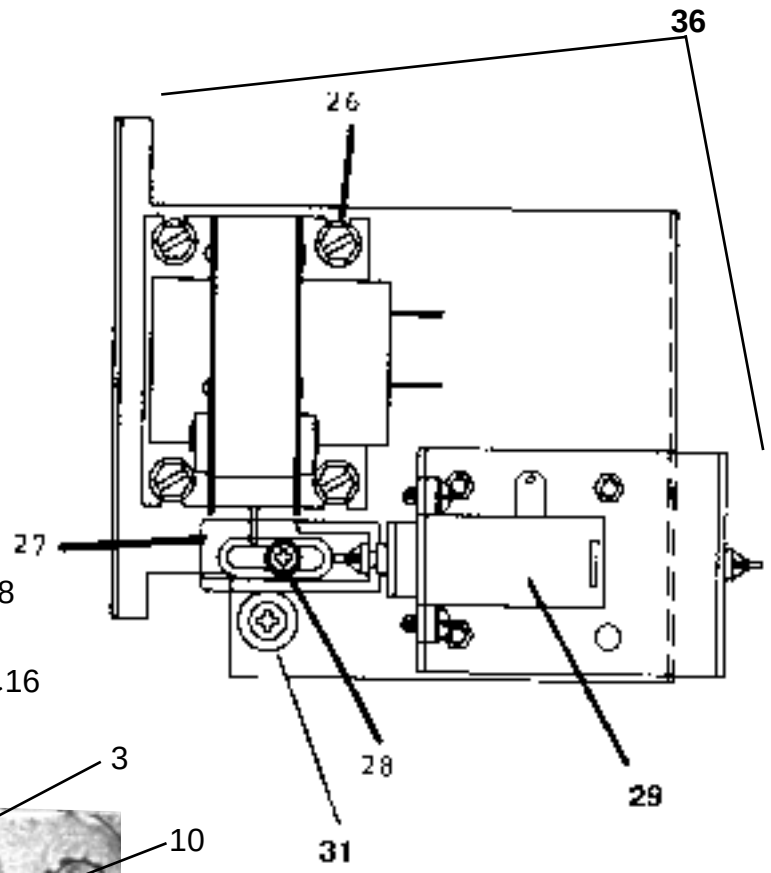
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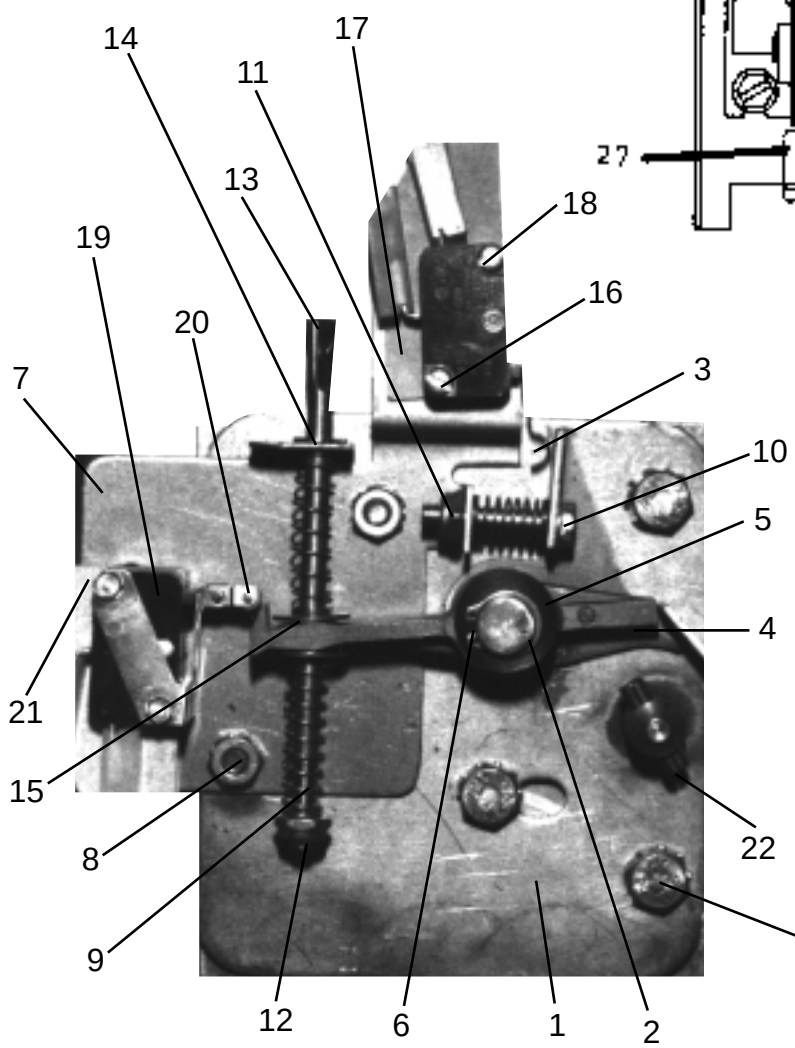
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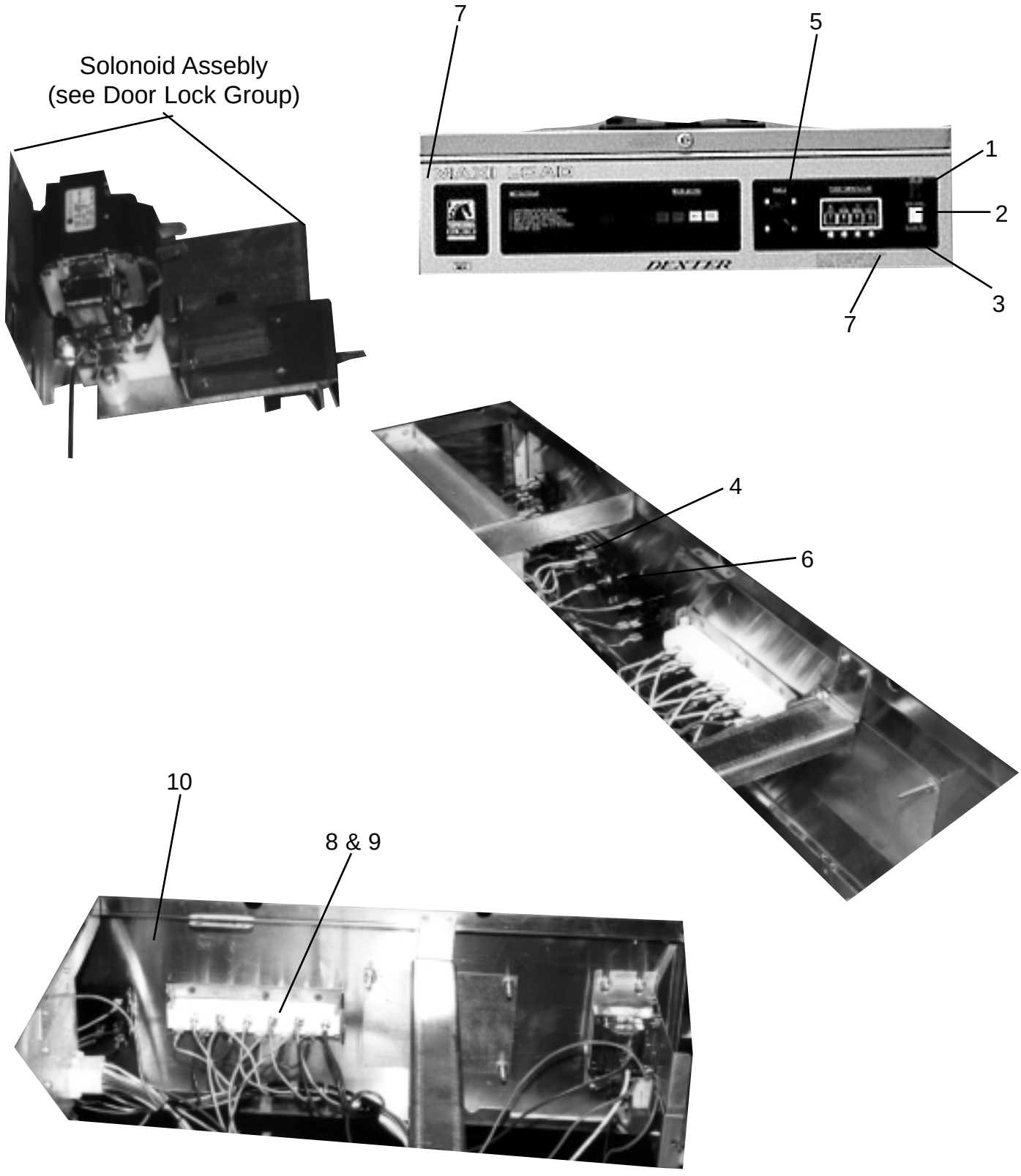
CONTROL PANEL GROUP

Key	Part Number	Description	MODELS WCN40 A A	MODELS WCN40 A B
1	9539-474-004	Switch, Red--OFF/ON	1	1
2	9539-474-005	Switch, White--ADVANCE/START	1	1
3	9539-474-006	Switch, Blue--PAUSE/RUN	1	1
4	9539-471-001	Switch, Rotary Selector	1	1
6	9539-479-007	Switch, Push-button (cycle selector)	1	1
5	9307-176-001	Knob, Control	1	1
*	9545-044-004	Screw, 6-32 x 1/4"	1	1
7	9412-096-002	Nameplate MAXILOAD	1	1
*	9538-165-001	Spacer	2	2
*	8640-412-003	Nut, Switch mounting	2	2
8	3310-041-001	Light, Cycle Control	1	1
9	9206-100-001	Gasket, Light	2	2
10	9989-458-001	Panel Assembly --Control	1	1

* Not Illustrated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(see Door Lock Group)
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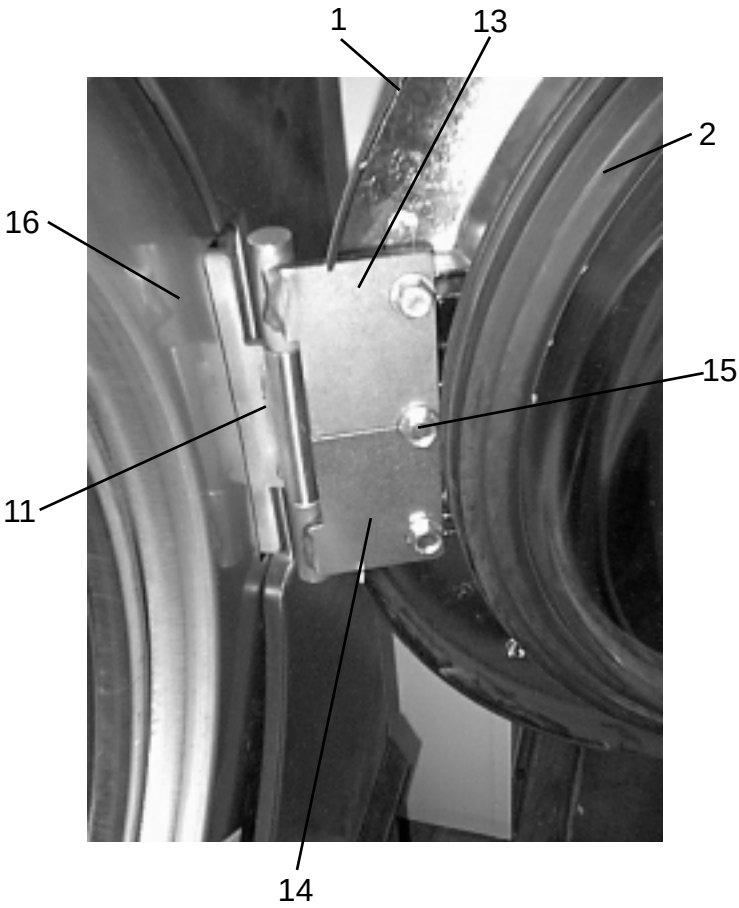
LOADING DOOR GROUP T-600 WITH FULL OPEN HINGE

Key	Part Number	Description	MODELS WCN40 A A	MODELS WCN40 A B
*	9960-259-006	Loading Door, Complete (includes #1thru #10)	1	1
1	9487-230-002	Loading Door, Ring	1	1
2	9206-419-001	Gasket, Loading Door	1	1
3	9635-016-001	Window, Loading Door	1	1
4	9913-134-003	Shaft Assy, Locking (includes #5 thru #8)	1	1
5	9537-195-002	Shaft, Door Locking	1	1
6	9095-040-001	Cam, Locking	1	1
7	9451-181-005	Pin, Groove (1 1/4)	1	1
8	9451-181-004	Pin, Groove (3/4)	1	1
9	9534-360-002	Spring, Lock Cam	1	1
10	9244-080-003	Handle, Door	1	1
*	9451-181-006	Pin, Door Handle (groove)	1	1
11	9955-030-001	Hinge Assy, Loading Door	1	1
12	9545-014-009	Screw, Hinge Mtg	3	3
12	8641-582-009	Lockwasher	3	3
12	9552-036-001	Shim, Loading Door Hinge, Thin	AR	AR
12	9552-036-002	Shim, Loading Door Hinge, Thick	AR	AR
13	9845-005-001	Top, Loading Door Leaf Hinge	1	1
14	9845-005-002	Bottom, Loading Door Leaf Hinge	1	1
15	9545-056-002	Screw, Loading Door Mtg	3	3
16	9487-254-002	Ring, Masking	1	1
*	8640-413-002	Nut	4	4
*	9059-063-002	Band Edge Protector	1	1

* Not Illustrated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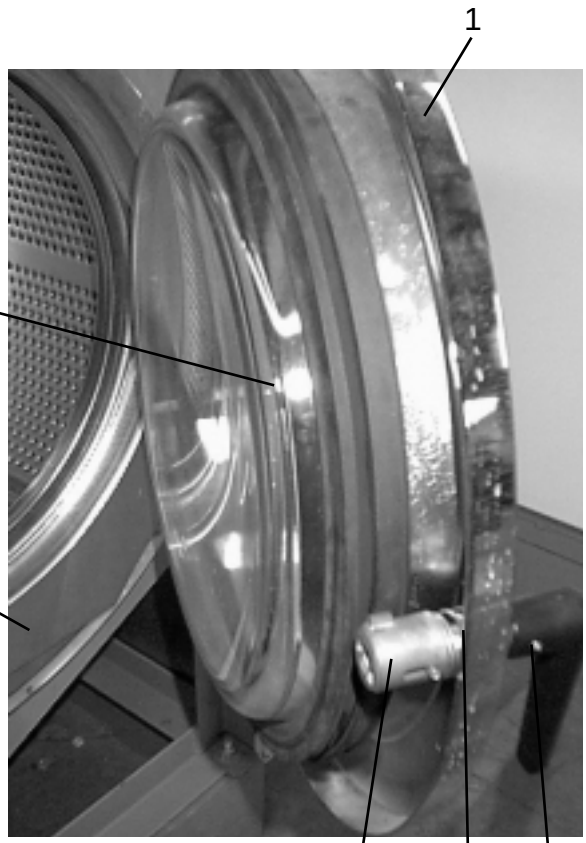
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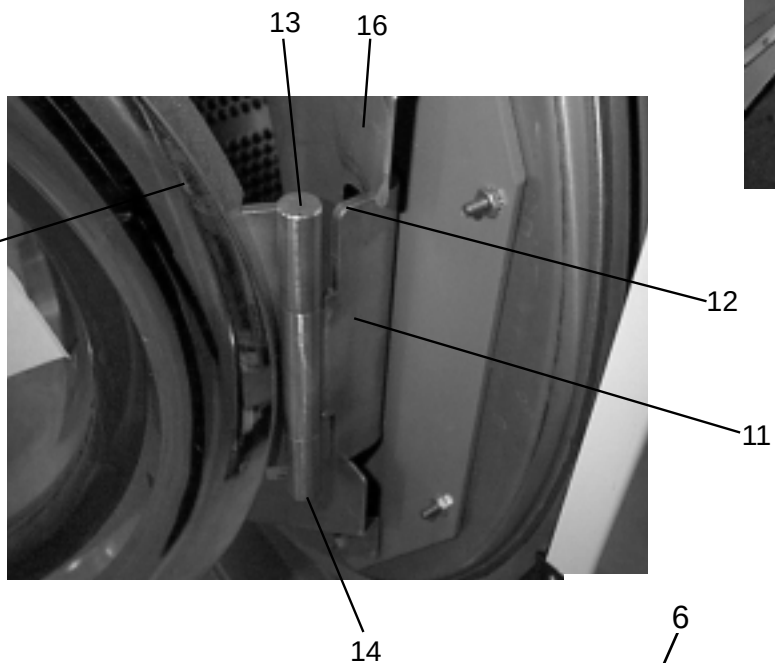
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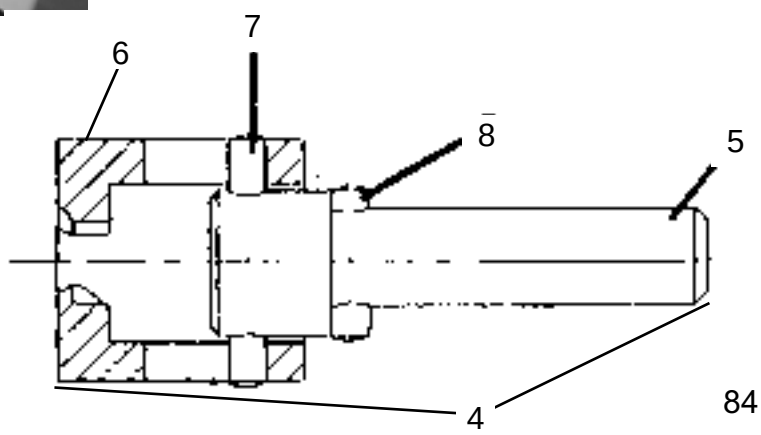
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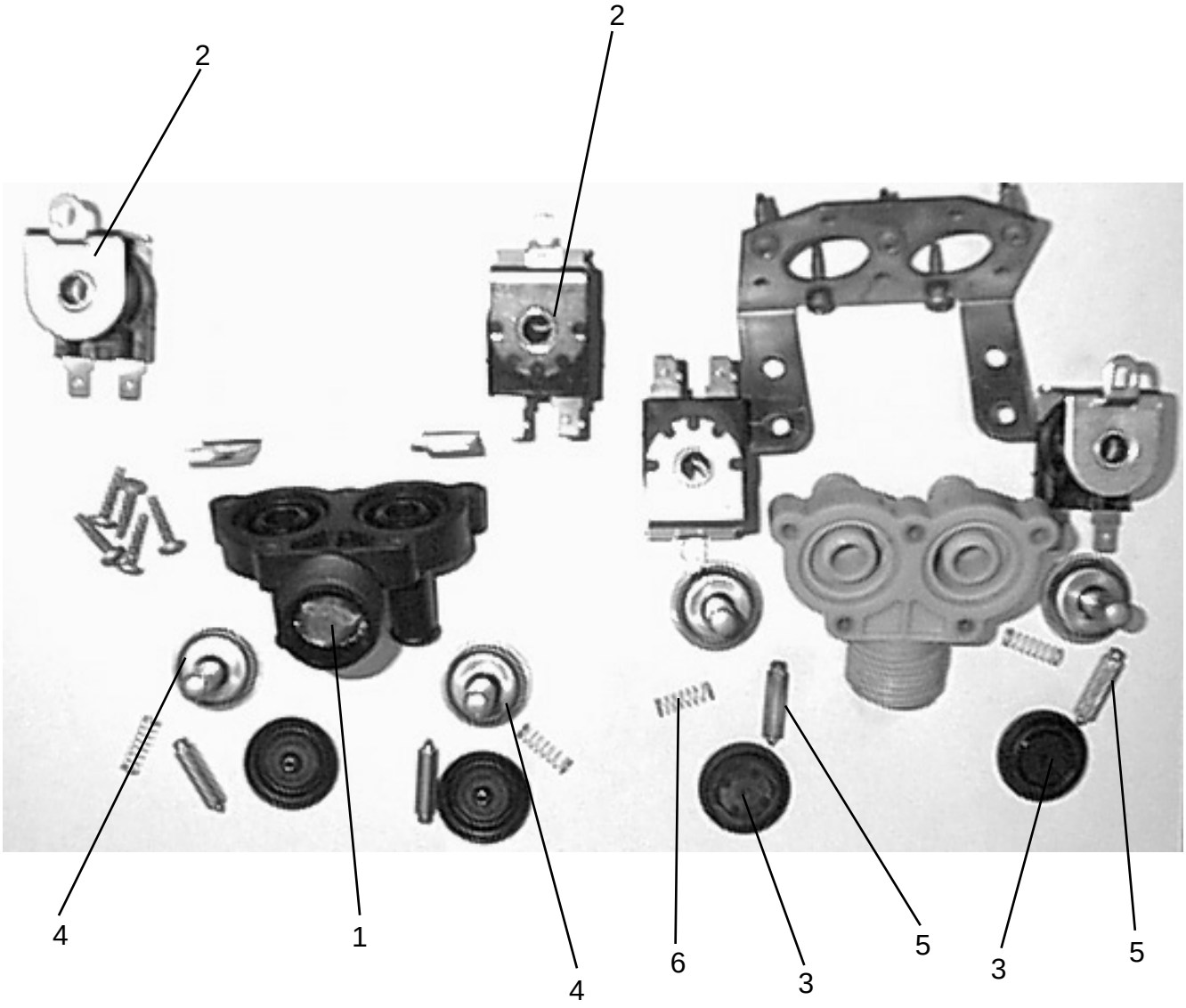
WATER INLET VALVE BREAKDOWN

Key	Part Number	Description	MODELS WCN40 A A	A B
*	9379-183-003	Valve, Water Inlet Blue (includes #1 thru #6	1	1
*	9379-183-004	Valve, Water Inlet Black (includes #1 thru #6)	1	1
1	9555-056-001	Screen, Inlet	2	2
2	9089-017-001	Coil Assy., 120 V	2	2
3	9118-049-001	Diaphragm	2	2
*	9118-049-002	Diaphragm (chemical resistant)	optional	
4	9211-021-002	Guide, Solenoid	2	2
5	9015-008-001	Armature	2	2
6	9534-298-001	Spring, Armature	2	2
*	9545-008-026	Screw, Valve Mtg	2	2

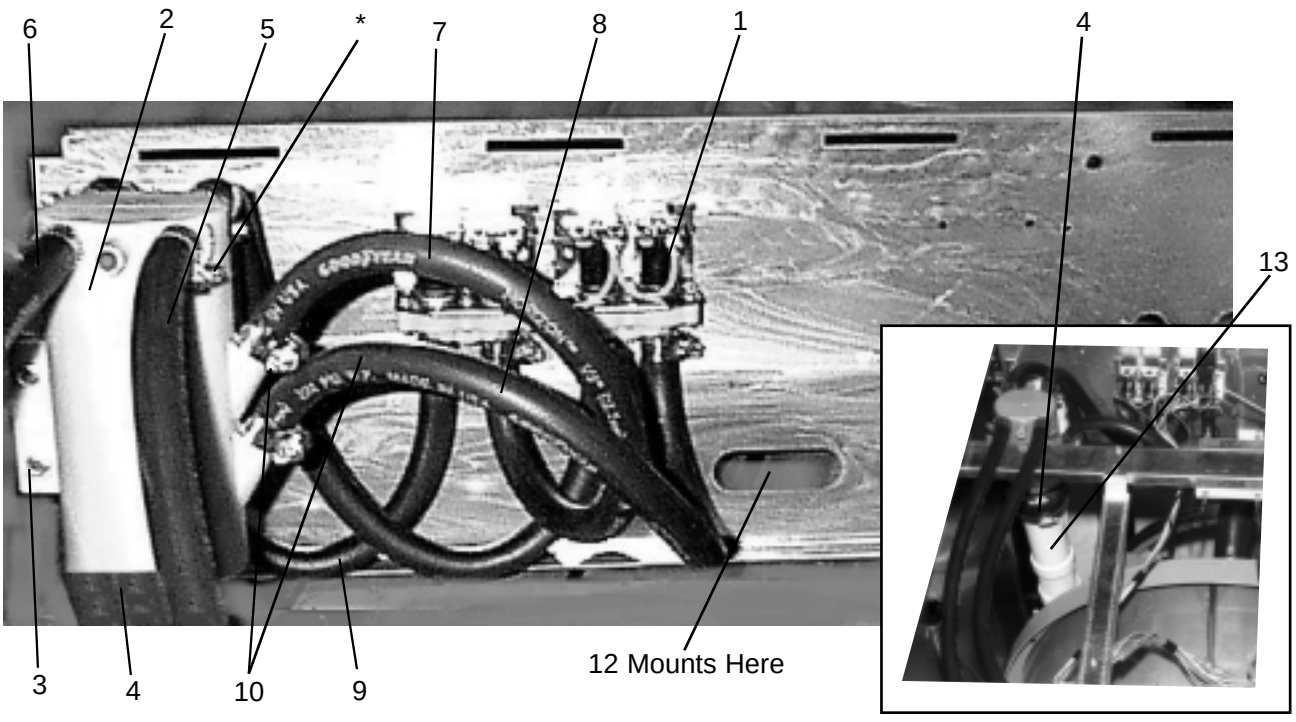
* Not Illustrated



WATER INLET GROUP

Key	Part Number	Description	MODELS WCN40 A A	A B
1	9379-183-003	Valve, Water Inlet Blue	1	1
1	9379-183-004	Valve, Water Inlet Black	1	1
*	9545-008-026	Screw, Valve Mtg	4	4
*	8640-399-006	Nut, Spring	4	4
2	9610-001-001	Vacuum Breaker	1	1
3	9029-069-001	Bracket, Vacuum Breaker	1	1
*	9545-008-026	Screw	4	4
4	9242-461-001	Hose, INJECTOR to Vac. Breaker	1	1
*	8654-117-009	Clamp, Tub End	2	2
*	8654-117-008	Clamp,	2	2
5	9242-453-008	Hose, Vacuum Breaker to Dispenser 26"	1	1
6	9242-453-009	Hose, Vacuum Breaker to Dispenser 23"	1	1
7	9242-453-020	Hose, Hot Valve to Vacuum Breaker 18"	1	1
8	9242-453-020	Hose, Cold Valve to Vacuum Breaker 18"	1	1
9	9242-453-020	Hose, Hot Valve to Vacuum Breaker 18"	1	1
10	9242-453-020	Hose, Cold to Vacuum Breaker 18"	1	1
*	9242-462-001	Hose, Injector to Tub	1	1
*	8654-117-015	Clamp, Hose-Worm	13	13
13	9883-007-001	Injector assembly P V C	1	1
12	9242-463-003	Hose , Overflow	1	1
*	9475-002-002	Flow restrictors	2	2
*	0935-127-001	End Cap (for chemical injection hose insertion)	1	1

* Not Illustrated

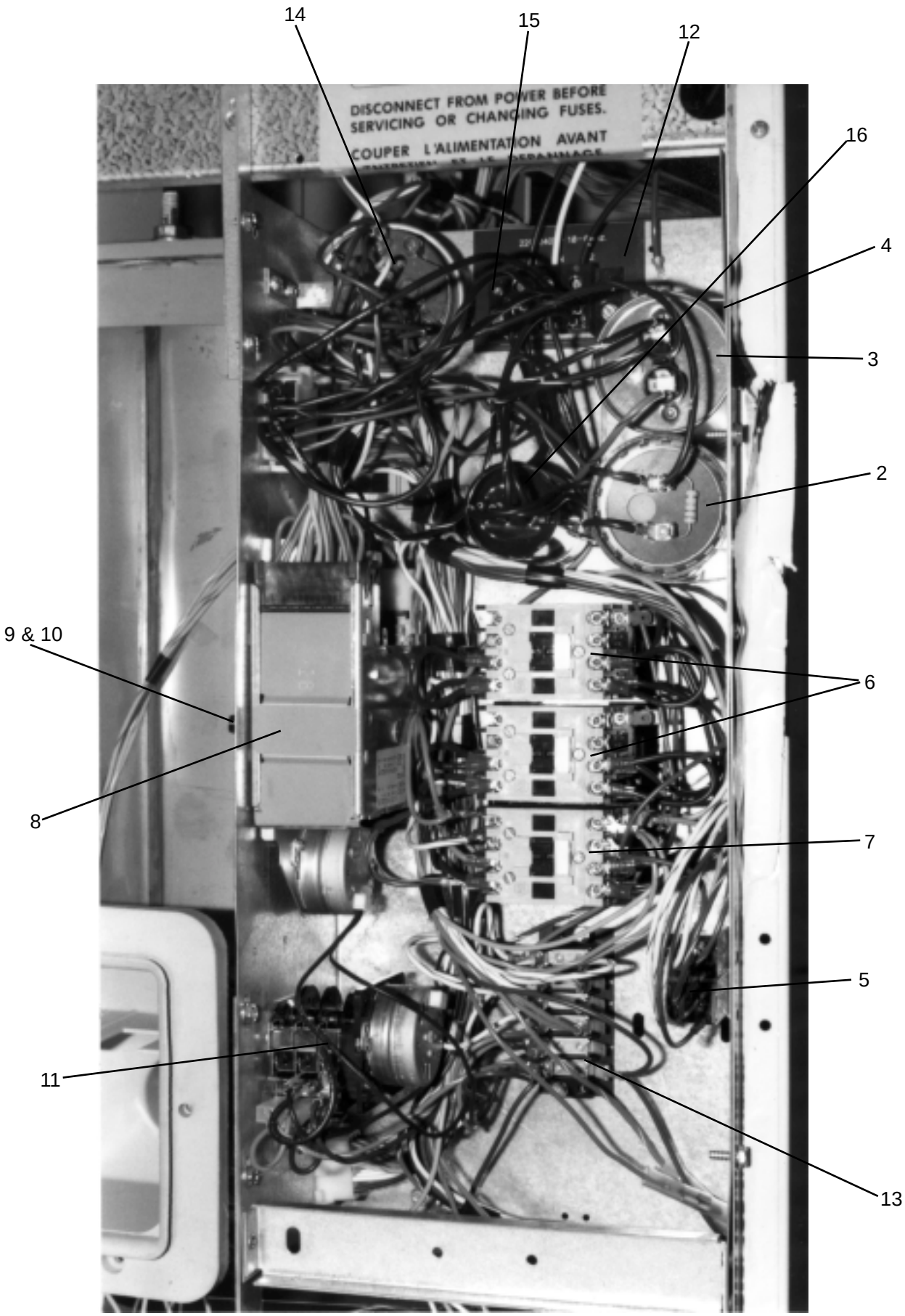


ELECTRICAL COMPONENTS - TOP COMPARTMENT

Single Phase Only

Key	Part Number	Description	MODELS WCN40 A A	MODELS WCN40 A B
1	9839-012-003	Trough Assy, Controls Mtg	1	
*	9003-229-001	Angle, Trough to Rear Channel	1	
*	9545-008-026	Screw	4	
*	9029-061-001	Front Bracket (mounting to control panel)	1	
2	5191-102-006	Capacitor, Spin-Start (plastic)	1	
3	5191-103-009	Capacitor, Run-Tumble (metal)	1	
4	9544-054-001	Strap, Capacitor Mtg	1	
*	9545-045-001	Screw, Capacitor Strap	2	
5	5192-285-001	Relay, (small)	2	
6	5192-286-007	Relay, Tumble	2	
7	5192-286-008	Relay, Spin	1	
8	9571-361-004	Timer, Program	1	
(VERIFY PART NUMBER ON TIMER BODY)				
*	9376-295-004	Motor, Timer Main Drive	1	
*	9376-286-004	Motor, Timer Rapid Advance	1	
*	9545-012-001	Screw, Timer Mtg	2	
9	9107-067-001	Dial, Timer	1	
10	9307-176-001	Knob, Timer (w/set screws)	1	
11	9571-360-001	Timer, Reversing	1	
*	9545-044-004	Screw, Reversing Timer	2	
12	9897-033-002	Terminal Block, Power Connection	1	
*	9545-045-007	Screw, Mtg	2	
*	8502-619-003	Label, Fusing	1	
13	9897-029-001	Terminal Block Assy, 12 Lug	1	
*	9545-045-007	Screw, Mtg	2	
*	9558-022-001	Strip, Terminal Marker	1	
14	9539-489-001	Switch, Pressure	1	
*	9545-045-001	Screw, Mtg	2	
*	5198-211-004	Circuit Breaker, 1.5 amp	1	
15	8652-130-037	Lug, Grounding	1	
*	8639-621-007	Screw, Mtg	1	
*	8641-582-006	Lockwasher	1	
16	9539-478-002	Solid State Start Switch	1	
*	9029-062-001	Strap, Mtg	1	
*	9545-010-001	Screw	1	
*	8640-412-005	Nut		1
*	9545-031-003	Screw	1	

* Not Illustrated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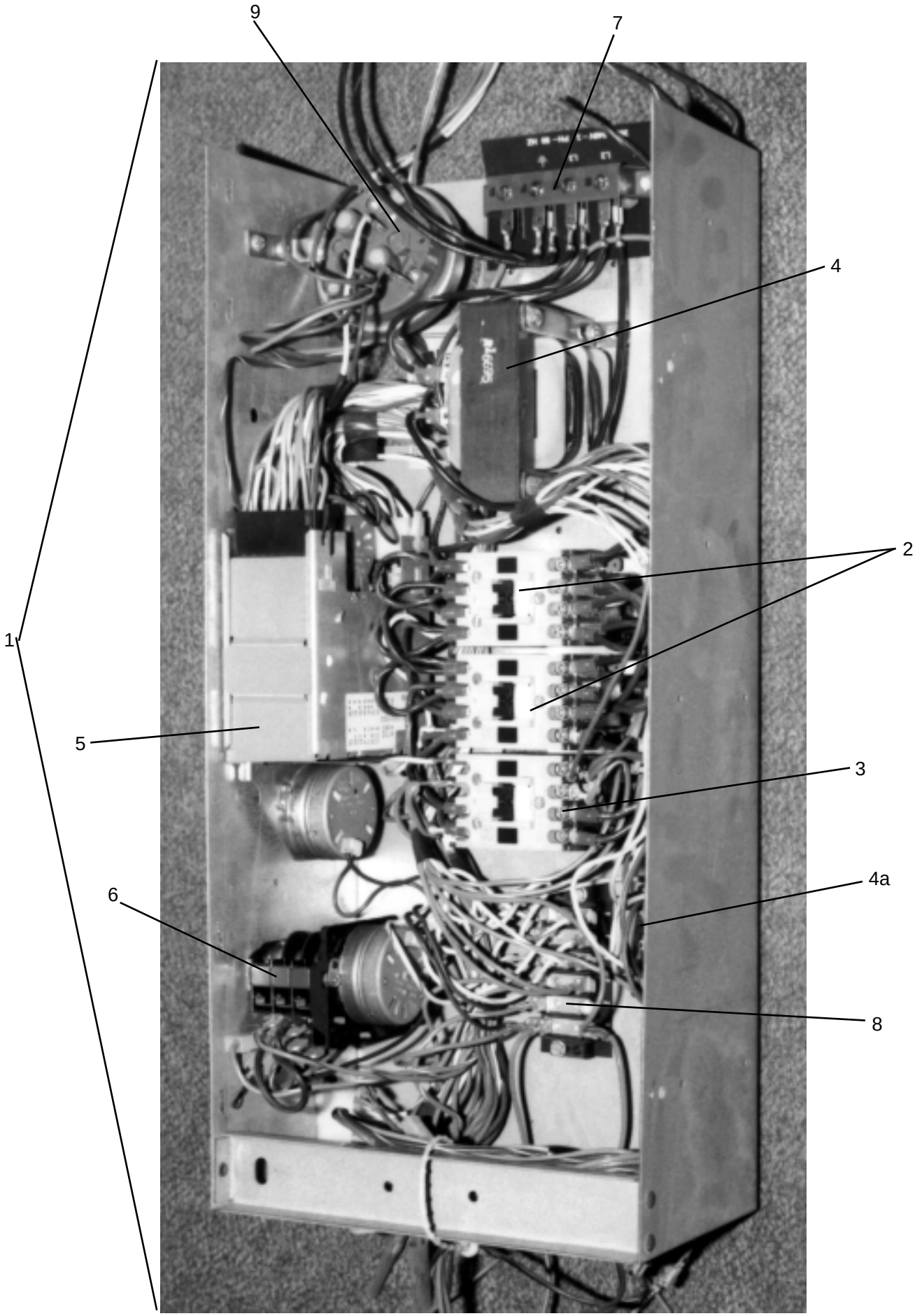
DISCONNECT FROM POWER BEFORE
SERVICING OR CHANGING FUSES.
COUPER L'ALIMENTATION AVANT

ELECTRICAL COMPONENTS - TOP COMPARTMENT

Three Phase Only

Key	Part Number	Description	MODELS WCN40 A A	MODELS WCN40 A B
1	9839-012-003	Trough Assy, Controls Mtg		1
*	9003-229-001	Angle, Trough to Rear Channel		1
*	9545-008-026	Screw		4
*	9029-061-001	Front Bracket (mounting to control panel)		1
2	5192-286-007	Relay, Tumble		2
3	5192-286-009	Relay, Spin		1
4	8711-004-001	Transformer, Control		1
*	9545-008-026	Screw		1
*	8641-582-006	Lockwasher		1
	8653-074-001	Connector		1
4a	5192-285-001	Relay Small		
5	9571-361-004	Timer, Program		1
(VERIFY PART NUMBER ON TIMER BODY)				
*	9376-295-004	Motor, Timer Main Drive		1
*	9376-286-004	Motor, Timer Rapid Advance		1
*	9545-012-001	Screw, Timer Mtg		2
*	9107-067-001	Dial, Timer Decal		1
*	9307-176-001	Knob, Timer (w/set screws)		1
6	9571-360-001	Timer, Reversing		1
*	9545-044-004	Screw, Reversing Timer Mtg		2
7	9897-035-002	Terminal Block, Power Connection		1
*	9545-045-007	Screw, Mtg		2
*	8502-619-004	Label, Fusing		1
8	9897-034-001	Terminal Block Assy, 12 Lug		1
*	9545-045-007	Screw, Mtg		2
*	9558-022-001	Strip, Terminal Marker		1
9	9539-489-001	Switch, Pressure		1
*	9545-045-001	Screw, Mtg		2
*	5198-211-004	Circuit Breaker, 1.5 amp		1
*	8652-130-037	Lug, Grounding		1
*	8639-621-007	Screw, Mtg		1
*	8641-582-006	Lockwasher		1

* Not Illustrated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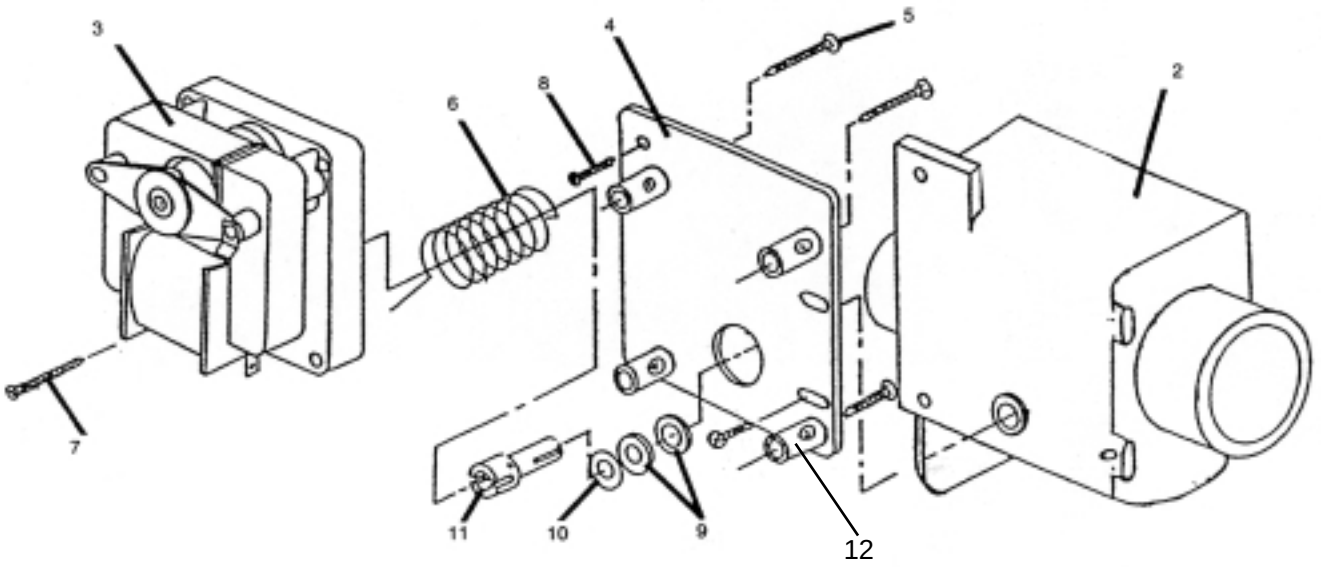
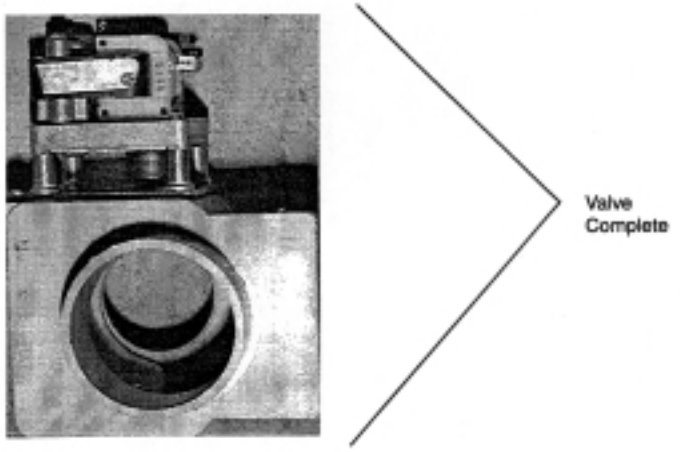
DRAIN VALVE GROUP

Key	Part Number	Description	MODELS WCN40 A A	MODELS WCN40 A B
	9379-187-001	Valve, Drain (includes #2 thru #11)	1	1
2	9064-070-001	Body, Valve (w/ball)	1	1
3	9914-137-001	Motor & Gear Train	1	1
4	9452-538-001	Plate, Motor Mtg	1	1
5	8639-994-001	Screw	3	3
6	9534-339-001	Spring, Drive	1	1
7	9545-054-001	Screw	2	2
8	9545-054-002	Screw	1	1
9	9532-134-001	Seal, V Packer	2	2
10	8641-584-001	Washer	1	1
11	9451-196-001	Pin, Main Drive	1	1
12	9538-149-001	Spacer,Plate Motor Mtg.	4	4





TERMINAL BLOCKS

Key	Part Number	Description	MODELS WCN40 A A	MODELS WCN40 A B
	9897-035-001	Terminal Block	1	
	9558-027-001	Strip Marker	1	
	9897-033-002	Terminal Block Power	1	1
	9558-022-001	Strip Marker	1	1
	9545-045-007	Screw	2	2
	9897-035-002	Terminal Block 4 Pole		1
	9558-029-001	Strip Marker		1
	9897-032-002	Terminal Block Injector	1	1
	9556-028-001	Strip Maker	1	1
	9545-053-002	Screw	1	1
	9857-034-001	Terminal Block Power	1	1
	9558-025-001	Strip Marker	1	1
	8652-134-001	Terminal Lug, Ground	1	1
	8639-621-00	Screw	1	1
	8641-582-006	Lockwasher	1	1
	8652-130-037	Terminal , Grounding	1	1
	8639-621-007	Screw	1	1
	8641-582-006	Lockwasher	1	1

LABELS

Key	Part Number	Description	MODELS WCN40 A A	MODELS WCN40 A B
	9345-783-002	Label Maintimer(chart)	1	1
	9345-794-002	Wiring Label-Schematic	1	1
	9345-796-004	Wiring Label-Diagram	1	
	8502-624-002	Label Warning Door Opening	1	1
	8502-614-004	Label High Voltage	1	1
	8502-647-001	Label Connections Injector	1	1
	8502-649-001	Label Connections Electrical	1	1
	8502-619-003	Label Fusing & Installation	1	1
	9345-795-003	Wiring Diagram 3 ph		1

WIRING HARNESS GROUP

Key	Part Number	Description	MODELS WCN40 A A	MODELS WCN40 A B
USE FOLLOWING TWO ITEMS WITH TIMER PART NUMBER 9571-359-002				
	9627-680-002	Wiring Harness, Main	1	1
	9627-681-003	Wiring Harness, Control	1	1
USE FOLLOWING TWO ITEMS WITH TIMER PART NUMBER 9571-361-002				
	9627-702-003	Wiring Harnss, Main	1	1
	9627-694-001	Wiring Harness, Control	1	1
	9627-691-001	Wiring Harness, Injector Control	1	1
	9627-683-001	Wiring Harness, Drain Valve	1	1
	8654-125-0012	Clamp, Cable- 1/4" Diameter	1	1

Section8
Maintenance

Daily

1. Clean the top and the cabinet to remove residue from undissolved soap.
2. Clean the soap dispenser and soap lid.
3. Check the drain for leaking and proper draining also inspect for any other water drops around machine as water drops can lead to Floods.
4. Check the loading door for leaks.
5. Clean the door seal of all foreign material.
6. Leave the loading door open to aerate the washer when not in use.
7. Inspect and reinstall all panels and guards.

Quarterly

Make sure the power is disconnected before making the following checks.

1. Check the drive belt for wear and proper tension.
2. Clean lint and other foreign material from around drive motor.
3. Check all water hose connections for leaks.(inside machine with top off)
4. Wipe and clean the inside of the washer and check all electrical components for moisture and dust.
5. Remove and clean water inlet hose filters. Replace if necessary.
6. After any service always replace all panels before reconnecting electrical power.
7. Inspect and reinstall all panels and guards.

Yearly

1. Inspect water level pressure switch line. (blow down from switch to drain)

MAINTENANCE NOTES